

The Mining Journal AND ATMOSPHERIC RAILWAY GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 600.—VOL. XVII.

LONDON, SATURDAY, FEBRUARY 20, 1847.

[PRICE 6D.

BALLESWIDDEN MINE—SPARE MATERIALS FOR SALE.
M. R. BELLINGER, will SELL, BY AUCTION, on Tuesday, the 23rd day of February inst., at Eleven o'clock in the morning, at BALLESWIDDEN MINE, ST. JUST, Penwith.
TWO excellent 24-inch cylinder PUMPING ENGINES, without boilers.
45 Fathoms 9-inch pumps 2 9-inch plunger pumps
3 ditto 8-inch ditto 1 7-inch ditto ditto
14 ditto 7-inch ditto 1 6-inch ditto ditto
31 ditto 6-inch ditto 1 5-inch ditto ditto
8 ditto 5-inch ditto 1 11-inch plunger working
10 ditto 4-inch ditto 1 10-inch ditto ditto
23 ditto 4-inch ditto 1 9-inch ditto ditto
Several 10-inch, 9-inch, 8-inch, 7-inch, 6-inch, 5-inch, and 4½-inch plunger rods, with stuffing-boxes and glands.
A great quantity of rod plates: 150 fathoms, from 5-inch to 9-inch, shaft rods.
A good BOILER, from 3 to 8 tons.
A cast-iron water-wheel axle; and numerous other materials for mining purposes.
Every information will be afforded on application to the agents, on the mine; Mr. R. V. DAVY, purser; or the auctioneer, at Penzance.
Dated Feb. 9, 1847.

SALE OF EIGHT DISC ENGINES AND OTHER EFFECTS.
on premises in Jamaica-row, adjoining the Horse Shoe-yard, Birmingham.—TO BE SOLD, BY AUCTION, by Mr. GIBBLETT, on Thursday next, the 26th of Feb., on the premises as above, commencing at Twelve o'clock to a minute, EIGHT DISC ENGINES, of 2, 5, 8, 12, and 20-horse power, with governors, &c.; superior 2-horse power thrashing machine, 2 portable smelting hearths, wrought-iron door and frame, press, feed, and force pump, slotting-machine, and other effects; also, a handsome DENNET CO. nearly new—particulars of which will appear in the catalogues.

SOUTH WALES, GLAMORGANSHIRE—LLANDILO-TALYBONT PARISH—TO BE SOLD, BY PRIVATE CONTRACT.
PENGLYDDRAW FARM, containing 26 A. 1 R. 24 P., in the occupation of Mr. Lewis Ross.

TIRBACH FARM, containing 12 A. 1 R. 3 P., in the occupation of Mr. Lewis Ross.
BRYNLLWYD FARM, containing 34 A. 0 R. 39 P., in the occupation of Mr. Jas. James CAEGHOMMACH, a field adjoining a road, containing 3 A. 1 R. 0 P., in the occupation of Mr. W. Davis.

The coal, ironstone, stone, and minerals, under the four farms, are to be reserved to the vendors.

The COAL, IRONSTONE, STONE, and OTHER MINERALS, under the preceding four lots, containing 75 A. 0 R. 26 P.

These properties will be sold either together or separately. The coal is of excellent quality for steam-packet purposes, and a large portion of it can be won by a shallow pit, of 15 or 16 fms., or less. The property immediately adjoins that now worked by Cameron's Coalbrook Steam Coal Company, near Swansea.

Apply, for particulars, to Messrs. Rowland, Hacon, and Rowland, 28, Threadneedle-street, London.

SOUTH AUSTRALIA—FOR SALE, a SECTION OF NINETY-FIVE ACRES OF LAND. about 1 to ½ miles from the famous Kapunda Copper Mine, and nearly in the direction of its leade. The adjacent country seems to abound with COPPER ORE, and should this section not prove mineral, it will be most valuable for building, or other purposes.

For particulars, apply to Edmund J. Wheeler and Co., colonial agents, Winchester House, Old Bond-street, London.

N.B.—It is wished by a purchaser, Messrs. E. J. Wheeler and Co. will effect an agreement with responsible parties to examine the section for copper ore, and, if found, to work it at a royalty; if not proving mineral, the section can be managed for building or farming, by an agent in the colony.

MINERAL FIELD IN MID-LOTHIAN—TO BE LET, for such term of years as may be agreed on, the COAL, LIMESTONE, and IRON-STONE on the LANDS of DUDINGSTONE and BRUNSTAIN, in the county of MID-LOTHIAN, the property of the Most Noble the Marquess of Abercorn.

The soils consist chiefly of what are termed the Edge Scams of Mid-Lothian, which are numerous, and of various thicknesses and quality—some of them containing Gas, or Paraffin Coal. There is also reason to expect at Duddingstone, Black-bands and ironstones, such as have been found at Drymen and Glenrothes, in the same range of coals; and Limestone has been worked on the estate.

The near vicinity of this coal-field to the city of Edinburgh and the town of Portobello, and the direct access by Railway to Edinburgh, as well as to the ports of Leith and Fisherrow, render it peculiarly advantageous for a colliery.

An engine-pit has been already sunk to a considerable depth at Magdalene-bridge, where it is intended to have reached within about 20 fathoms of the Jewel Coal; and an inclined plane mine, in one of the Edge Scams of Coal, has been extended to Joppa, in which mine coal-wall was prepared and ready to work; but both operations have been suspended since the death of the late tenant, and the pit and mine are thus at present filled with water; but the steam-engines and machinery, which were erected by the late tenant, are still on the property (and may be had at a valuation by a tenant), readily commanded the water when the works were in progress.

The collieries will be shown by Mr. Allan Livingstone, Joppa; and for particulars application may be made to Messrs. Bald and Geddes, mining engineers, 40, Albany-street, Edinburgh, with whom are the plans and sections of the coal-field.

Edinburgh, Feb. 18, 1847.

VALUABLE COAL MINES—TO BE LET, ON LEASE, all those THREE several superior BEDS OF COAL, called the WATERLOO COAL, the MAIN SOFT COAL, and the LOWER HARD COAL, lying and being under 125 acres of land, situate at BRINSLEY, in the county of Nottingham.

Abutting to the above, and drained by the same level, are about 360 acres of the two last-named beds, belonging to molemen and parties willing to lease the same—forming one (and without doubt) 493 acres of excellent coal seams. The bottom one is particularly adapted for iron-making.

The Erewash Valley Railway (the most direct London line) connects the property by a short branch; and the Ambergate, Nottingham, and Boston line will pass within 30 yards of the deepest point of the estate.

For further particulars apply to Messrs. Lucas and Cutts, solicitors, Chesterfield; or Mr. Thomas Goodwin, mineral agent, Ripley, Derbyshire.

Feb. 13, 1847.

TO RAILWAY CONTRACTORS, COAL OWNERS, MINERS, AND OTHER PARTIES USING LONG RANGES OF PIPING.

CHARLES MACINTOSH & CO.

SOLE MANUFACTURERS OF THE PATENT VULCANISED INDIA RUBBER WASHERS, of any description or figure, for Joints in Steam and Water Pipes.

C. M. & Co. can confidently recommend the washers, having received from engineers and others, who have used them, strong testimonials in their favour. These washers are easily applied to pipes of every description, and of any bivalve; and any unevenness on the surface of the flanges, instead of being objectionable, as in the ordinary mode of making joints, is, in the case of the Vulcanised India Rubber Joints, a positive advantage, especially where great pressure is used. These joints will sustain no injury from violent vibration in pumping, or otherwise.—Manchester, Jan. 20, 1847.

ASSAYING AND ANALYSIS.—MR. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he will continue to CONDUCT ASSAYS AND ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 35, HAWLEY-ROAD, KENTISH TOWN, LONDON.

to whom address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBDIVISIONS.—This article abounds the SAFEST, CHEAPEST, and most EXPEDITE MODE of effecting this very hazardous operation. From many testimonies to its use, which the manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c.—“I am very glad to hear that my recommendations have been of any service to you; they have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this.”

Manufactured and sold by the Patentees, BICKFORD, SMITH, and DAVEY, Gainsborough, Lincolnshire.

TO ENGINEERS, RAILWAY CONTRACTORS, MINING AGENTS, IRONMASTERS, AND OTHERS REQUIRING FINE GREASE OR ANTI-FRICTION GREASE,—after trials on machinery and axles of every kind, where constant friction is kept up—admitted to be the most useful, economical, and best preparation of the kind ever offered to the public.

References to scientific and practical men can be given, and testimonials shown of its great excellence.—Samples for vessels on application at the manufacturers, Green-street, Wellington-street, Blackfriars-road, London.

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TO ENGINEERS, BOILER-MAKERS, AND OTHERS. LAP-WELDED IRON TUBES, FOR STEAM-BOILERS.

W. H. RICHARDSON, JUN., & CO., DARLASTON, STAFFORDSHIRE.

MANUFACTURE IN DESCRIPTIONS OF WELDED WROUGHT-IRON TUBES, FOR STEAM, GAS, &c., of any required length and diameter, on the new and unequalled principle of Mr. J. ROSE's recent invention (Granted August, 1846).—Address as above.

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Transactions of Scientific Bodies.

MEETINGS DURING THE PREVING WEEK.

| Society. | Address. | Day. | Hour. |
|--------------------------|-------------------------------|-----------|--------|
| Asiatic | 14, Grafton-street | Saturday | 2 P.M. |
| Geographical | 3, Waterloo-place | Monday | 8 P.M. |
| British Architects | 16, Grosvenor-street | Monday | 8 P.M. |
| Medical | Bolt-court, Fleet-street | Monday | 8 P.M. |
| Medical and Chirurgical | 25, Great George-street | Tuesday | 8 P.M. |
| Civil Engineers | 11, Hanover-square | Wednesday | 8 P.M. |
| Zoological | Adelphi | Friday | 8 P.M. |
| Society of Arts | Somerset-house | Thursday | 4 P.M. |
| Geological | Somerset-house | Friday | 8 P.M. |
| Royal | Somerset-house | Saturday | 8 P.M. |
| Antiquaries | 4, St. Martin's-place | Friday | 8 P.M. |
| Royal Society Literature | Albemarle-street | Saturday | 8 P.M. |
| Royal Institution | Load-lb., 12, St. James's-sq. | Friday | 8 P.M. |
| Philological | Inner Circle, Regent's-park | Saturday | 8 P.M. |
| Royal Botanic | 27 A, Sackville-street | Saturday | 8 P.M. |

ROYAL COLLEGE OF CHEMISTRY.

A special general meeting of the founders of this college was held at the institution Hanover-square on Thursday last, for the purpose of receiving a code of laws, to be presented by the council. The chair was occupied by B. B. CARMEL, Esq., M. P.; and amongst the members present were Viscount Nevill, M. P., Capt. Rushton, M. P., William Beckford, Esq., M. P., Sir James Clark, Bart., Dr. Helman, Dr. Daniel, &c. The proposed constitution and laws of the college were read by Mr. Journeay, the secretary. The college, as our readers are aware, was instituted for the purpose of affording adequate opportunities for instruction in practical chemistry at a moderate expense; and for promoting the general advancement of chemical science, and its application to agriculture, manufactures, and the useful arts, by means of a well-appointed laboratory of research. The laws, as proposed, were then agreed to; the only rule which gave rise to much discussion being that which admitted every donor of £1000 to a seat among the 36 members of the council. This question having been decided in the affirmative, and thanks voted to the chairman and the council for their services, the meeting adjourned.

INSTITUTION OF CIVIL ENGINEERS.

FEBRUARY 16.—Sir JOHN RENNIE (President) in the chair.

The paper read was a continuation of that which was brought forward at the last meeting by Mr. G. B. W. Jackson, Assoc. Inst. C.E. It gave an "Account of the mode of gaining lead from the sea by polders, and the art of building with facing work as practised in Holland and Germany."

The paper commenced by referring to the works of Mela, Welteveld, Spanza, Caland, Hyde Clarke, and others, as having given the best known accounts of Dutch water constructions and the situations of these labours. It then described the "polders" as being tracts of land recovered from the sea by the construction of a belt of dykes, gradually raised to above the water level, and then pumped dry, by which means they were still rendered habitable; the level of many of the more ancient being beneath that of the sea. When thus reclaimed, they form the finest sand, and produce for many years immense crops, almost without the application of manure. The usual construction of these dykes was described to be by sinking successive layers of beds of fascines or faggots of almost 40 in. thick, by from 8 to 16 yards in width, and of proportionate length, weighted with gravel and stones, mingled with clay, sea-weed, and silt. These layers were continued until they reached above the sea level, when the top was constructed of more solid materials, and sometimes capped with a flooring of brick-work, as the public roads were formed upon them. The difficulties of the usual construction of the larger and the smaller dykes of various forms and heights were fully described, particularly entering into the details of the dimensions and quantities of the materials employed, and the precautions to be taken for the delicate operation of closing the last portion of each dyke, which, unless skilfully conducted in proper weather, frequently hazards the safety of the whole work.

The different kinds of lock-gates and sluices used for facilitating the outflow of the land waters, and preventing the ingress of the sea, were fully described, and drew from several members accounts of balance and other gates of peculiar construction used in Holland and elsewhere. The original kind appear to have been the self-acting balance gates of unequal surface, so placed upon pivots that, on the rising of the tide, they closed, and remained so, until, on the receding of the tide, the weight of the accumulated land waters forced them open. Recently, machinery has been employed for opening and shutting these gates, and the ordinary lock-gates have generally been adopted, and it was found that they were frequently prevented from shutting by some floating matter getting between the mitre posts, and great leakage ensued. The general details were then given of the methods adopted for the subsequent drainage of the polder lands, the separation of the springs, the upland and lowland waters, and the methods of conducting them out to sea. The slopes of the faces of the dykes vary considerably. Some of the low dykes are in section of the form of an arc of a circle of 6 to 10 ft. cord, and 10 in. to 18 in. versed sine, covered with fascines staking staked down upon a clay bed. Others have a base of 19 ft. wide and 5 ft. high, of a triangular section, also made of fascines and stakes, secured by hurdles, and weighted with stones. Baskets filled with sand are also used in certain situations, as well as various modifications of all these kinds of protections. It was stated that these constructions were found to succeed better, and last as long as stone, being at the same time about half the cost; and in the discussion which ensued, it was agreed that some parts of England, where stone was not expensive, our limits will not permit a more extended notice of this excellent paper, of which it was justly add by one of the speakers that "it is the first detailed account in the English language of some of the most interesting hydraulic works of Holland." We must also adjourn until next week any notice of the discussion which ensued, and which, it was announced, would be continued at the meeting of Tuesday, Feb. 23, when a paper will be read "On the Ventilation of Mines," by Joshua Richardson, Memb. Inst. C.E.

SOCIETY OF ARTS.

At a meeting of the society, on Wednesday evening—THOMAS WEBSTER, Esq., M.A., in the chair—a communication, illustrated by numerous specimens, was made by M. Clarke, on the art of photography.—Subsequently, the first portion of an interesting paper was read by Mr. Jordan, on the art of mechanical carving. In illustration of the subject, many specimens of surprising beauty in design and skill in workmanship were exhibited to the meeting. Mr. Jordan proceeded to describe the structure, as well as the working of the machine; and, from what we could collect, both seem to be of a much more simple character than the elaborate tracery of the carving would lead one to suspect. The process of executing a screen, exhibited among other specimens, which displayed a complex design in its fine and perforated tracery, was completed in the rough, we were surprised to hear, in the short space of four days; under manual labour the same could not have been achieved under 12 months at the least. This saving in time necessarily produces a corresponding saving in money; and if architects have hitherto been unable to make any use of oak carvings for the interior embellishments of ecclesiastical and other public buildings, this newly invented machine will now place such means of decoration fully within their reach. This design, as above stated, comes from the machine with a rough surface; and, therefore, requires the finishing polish of the skillful workmen, before it can be applied to its intended use. It then exhibits such wonderful delicacies to surpass the finest examples of oak carving we have ever seen. Among the designs particularly worthy of notice were a beautiful pendant raceme of the hop with its leaves, flowers, and tendrils, worked out with singular fidelity. An elaborately carved double lectern was also a remarkable example of gothic carving, and quite unapproachable. Numerous other objects were exposed for view, showing the ready application of the machine to all the various purposes of figure and other carving. The subject will be resumed at a future meeting.

Copy of a Letter from "COLONEL HAWKER" (the well-known author on "GUNS AND SHOOTING").
Longparish House, Whitelchurch, Hants, Oct. 21, 1846.

Six.—I cannot resist informing you of your LOZENGES—I had eaten, for several weeks, that defined all that had been prescribed for me; and yet I got completely rid of it by taking about half a small box of your Lozenges, which I find are the only ones that relieve the cough without deranging the stomach or digestive organs.—I am, Sir, your humble servant,

To Mr. Keating, &c., 79, St. Paul's Churchyard.

K. HAWKER.

K. HAWKER'S COUGH LOZENGES ARE PATRONISED ALSO BY his Majesty the King of Prussia, his Majesty the King of Hanover, and most of the Nobility and Clergy of the United Kingdoms, and are especially recommended by the Faculty.

RECENT TESTIMONIAL.

DEAR SIR.—Having been, for a considerable time during the winter, afflicted with a violent cough, particularly at lying down in bed, which continued for several hours incessantly, and after trying many medicines without the slightest effect, I was induced to try your Lozenges; and, by taking about half a box of them, in less than 24 hours, the cough entirely left me, and I have been perfectly free from it ever since.

9, Claremont-terrace, Pentonville.

I am, dear Sir, yours, very respectfully,

JAMES ELLIS.

Mr. KEATING. (Late proprietor of the Chapter Coffee-house, St. Paul's.)

Prepared and sold in boxes, 1 d., 2d. tins, 2s. 2d., 4s. 6d., and 10s. 6d. each, by T. Keating, chemist, &c., No. 79, St. Paul's Churchyard, London; and retail by all drug-geists and patent medicine vendors in the kingdom.

N.B.—To prevent spurious imitations please to observe that the words "KEATING'S COUGH LOZENGES" are engraved on the Government stamp of each box.

NOTICE.—These Lozenges contain no opium, or any preparation of that drug.

NO BREWING UTENSILS REQUIRED.

PATENT CONCENTRATED MALT AND HOP EXTRACT enables PRIVATE INDIVIDUALS to MAKE

FINE HOME-BREWED ALE.

WITHOUT EMPLOYING ANY BREWING UTENSILS.—It has only to be dissolved in hot-water and fermented.—Sold, in jars, for medicinal and other purposes, at 1s. and 1s. 6d.; and in bottles for brewing 2s to 18 gallons and upwards of ale, at 6s. 6d. and 12s. 6d. each, by the

BRITISH NATIONAL MALT EXTRACT COMPANY.

7, NICHOLAS-LANE, LOMBARD-STREET; Petty-Word, and Co., 52, Threadneedle-street; Wix and Sons, 22, Leadenhall-street; Batty and Co., 15, Finsbury-Parva; De Castro and Peach, 65, Piccadilly; Hockin and Co., 38, Duke-street, Manchester-square; and others and grocers generally.

Also, just published, and may be had gratis.

NATIONAL BREWING: A GUIDE to the USE of CONCENTRATED MALT AND HOP EXTRACT, for BREWING and WINE MAKING, to which is added, MEDICAL OPINIONS relative to the virtues of malt and hops.

THE BILE INFALLIBLY CURED BY HOLLOWAY'S PILLS.—Many who suffer from the unconquerable of it: they complain of sick headaches—a derangement and swelling of the womb—loss of spirits—want of energy—feet, hands, &c., face swelling—and know not that these symptoms denote the impulsive action of the bile; and, if not remedied, might lead to a dropsey. Holloway's pills will always be found to act directly upon the liver and stomach, and carry off the redundant of humours, and thereby immediately restore the patient to a full enjoyment of health. The blue pill is a medicinal and destructive medicine, which no one should take.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

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Law Intelligence.

RAILWAY TURN-TABLES—INFRINGEMENT OF PATENT.

COURT OF COMMON PLEAS—FEB. 13.

ELLIS v. OMEROD.—We gave, in last journal, a notice of the first day's proceedings, in which the plaintiff's case was stated; Mr. BAINES now addressed the jury for the defendant; and, like Sir Fitzroy Kelly, he referred to several well-constructed models, and showed that he had attentively considered the subject. He contended, first, that there was little or nothing new in Mr. Ellis's table; and, if there were, that Dunn's table differed from it so essentially, that it could not be fairly considered an infringement of the plaintiff's patent. To establish his points he referred to the table of Smeaton; to the old tables used in the collieries in the north of England; to the Swindon table, on the Great Western Railway, made in 1842; to another table, near the same place, on the Birmingham and Gloucester line; to another made at Haigh's foundry, with cams; and he produced a model of Fairbank's weighing-machine, the invention of an American, and brought to this country in 1843; and to the whole of these the plaintiff's table differed.

Mr. BAINES referred to the table resting on a solid base, like that of Mr. Ellis. In 1842, the Manchester and Leeds Railway Company had called for tenders for a turn-table, and among the persons who sent in proposals was Mr. Ellis; though he was not a successful competitor, a proposal sent in by the Haigh foundry having been preferred. Mr. Ellis's patent was dated June, 1843; he founded it on the stability given to it by supports at points on the outer circle of the machine; but as he (Mr. BAINES) had shown equal steadiness had been obtained long before by means so similar, that the slight variation could not be termed a new principle, and scarcely a new method. He specified for doing away with friction rollers; they had been done away with long previously at Chelton, at Swindon, at the Haigh Foundry, and by Fairbank's machine. If a solid bearing was essential, that had been obtained years before. If he relied on a circular ring, there was no infringement, for Dunn's table had no circular ring. With respect to the defendant's table, he may say a few words. It was first put down on the Manchester and Leeds line in 1845. The model of it was before him. Where was the infringement charged to be found? It differed materially as the jury would see at a glance. Ellis's table consisted of one plate all over the top. That of the defendant's was not so; it consisted of a plate, hollow in the centre—most important feature. Another equally important feature was that the central base was formed of the permanent way of the railroad and portions of the permanent rail. This gave strength and safety, and stability likewise; for there was no shock, no deflection, less wear and tear, and a smaller original cost. There were here all the advantages of a turn-table, combined with scarcely any disturbance of the permanent way. It turned with perfect ease, and was steady without the wedges and rollers like those of the Swindon table. The train passed with as much facility as over any point of the line. If a carriage or an engine had to be turned, the end was accomplished without trouble or delay. He verily believed that the utility of this machine was the great objection to it on the part of the plaintiff. When he added that its durability was greater than Ellis's, that there was less trouble, less metal, less weight, a less price, and greater durability, it would be seen on which side lay the advantage. And to say that it was an imitation was most absurd, for in all material points it differed.

Mr. B. WOODCROFT, engineer, at Manchester, and patentee of several machines of his own invention, had paid attention to third-tables. The turn-table in Ellis's table is to be found in Smeaton's. In the defendant's invention, the central part is a portion of the permanent way, and the table itself is a hollow ring. This is more easily managed than the entire iron table of the plaintiff, and is safer by reason of the permanent way left in the centre. By adding wedges to Smeaton's table, perfect steadiness may be obtained, while steadiness is the point of what is termed the plaintiff's invention. Witness went to Swindon, on the Great Western Railway, in June, 1845, and spent three days in examining the table there. The diameter of that table is 78 ft. It is perfectly steady when the train passes over it. It is worked by cams and friction rollers, the former moved by means of a lever. There is another table on the Gloucester line to Swindon, the diameter of which is 18 ft., the marginal support being given by wedges (similar to that of the defendant's) instead of by cams, and a degree of steadiness obtained equal to that of the plaintiff's, or any other table. Witness had inspected the Cheltenham table, on the Birmingham and Gloucester Railway. The outer circle of it is a cast-iron curb. The rails on it project 8 in. over the table, and give it steadiness when the carriages come upon it. It is turned on a pivot and friction rollers, the table being raised. Fairbank's weighing-machine has been used in this country some years. The only essential difference between that and a railway turn-table is that the former is square, and the latter round. The principle of it is a stationary bearing on a series of levers, supported at the four angles. He considered defendant's

CROSS-EXAMINED.—Sir P. ELLIS: Witness said a six-wheeled engine or carriage could not be turned upon the defendant's table. Mr. Dunn had made tables without the permanent way in the centre.

It was now one o'clock, and the jury left the box to take refreshments, and Mr. Justice EALE good-naturedly intimated that the inquiry had reached a stage which rendered an amicable arrangement desirable for both parties, which hint was not thrown away, as learned counsel were soon seen in solemn consultation with clients, and it was understood that some of the principal persons concerned on each side met in the counsel's room. In about half an hour,

Sir F. KELLY rose, and said, that the suggestion thrown out by his lordship had had the desired effect. The parties had conferred in the best spirit, and had come to an arrangement, the result of which was that a verdict would be taken for the plaintiff on all the issues but one—and that one establishing the fact, that the defendant's invention was not an infringement of the patent of the plaintiff, and that their patent should be allowed to continue unquestioned; each party paying their own costs. He concurred in this arrangement—because, after what had been shown by his learned friend who led on the defendant, it was impossible not to see, that valuable as was the plaintiff's machine, the defendant's also could lay claim to merits entirely its own.

Mr. BAINES said he approved of the arrangement, because he considered it best for all parties, and begged to say, on the part of the defendants, that they were very far from wishing to infringe upon Mr. Ellis's patent; and cheerfully admitted that his table had much to recommend it; and as to their own, Mr. (Mr. BAINES) thought that it deserved all that had been said in its favour.

Mr. JUSTICE EALE said that the evidence given, and the models produced, fully made out the plaintiff's claim to a most valuable invention; and, it was his opinion, that nothing that had been advanced impeached his patent in the slightest degree. That patent was good, and he felt that it ought to be sustained. On the other hand, if he had been called upon to give up to the jury, he should have had great difficulty to bring his mind to the conclusion that the defendant had infringed it; for it would be obvious to every one that the invention contained many good points, and that it would not be a wise course to deprive the public of the advantage which these points involved.

The verdict was then recorded as agreed upon. Both parties to pay their own costs.

Sir F. KELLY: It is understood that the plaintiff's patent is in no degree impeached.

Mr. JUSTICE EALE: The plaintiff's patent is a proper one, and very clearly proved.

TING-TANG CONSOLS MINING COMPANY.

COURT OF EXCHEQUER, FEB. 16.

VIVIAN v. MOWATT.—This was an action brought to recover the sum of 95l. 15s. from the defendant, as an adventure in his Ting-Tang Consols Mine, in Cornwall, being the amount of the plaintiff's bill for certain ironware articles supplied to the said undertaking.

The case of the plaintiff rested mainly on the evidence of Mr. TURNER, the Member for Truro, who stated that he had put down the defendant's name at his request, as a shareholder in respect of five 250ths in the mine in question, in October, 1844; and on the payment of 15s. by the defendant on account of three calls which had subsequently been made. Besides these facts, a certain book of the proceedings of the company, technically known in Cornwall as the cost-book, was received in evidence, subject to a motion for a nonsuit on the ground that it ought to be stamped as an agreement.

Sir F. POLLARD directed the jury to find a verdict for the plaintiff for 95l. 15s., subject to the opinion of the court as to the reception of the book, and the right of the plaintiff to sue the defendant on the authority of Vice v. Lady ANSON, 7 B. & C. 409, where it was held that such an interest affected "real estate," and could not be conveyed without a formal assignment. The jury accordingly found for 95l. 15s.

PATENT FUEL—CITY DUES.

COURT OF COMMON PLEAS—FEB. 19.

THE LORD-MAYOR v. PARKINSON.—This was an action brought by the Lord-Mayor of the city of London, on behalf of the Corporation, against the defendants, manufacturers of patent fuel, at Newcastle-upon-Tyne, for the infringement of the Act of Parliament in importing fuel into the port of London without paying the usual duty imposed on coal.

The real question raised by the action was, whether or not the patent fuel was coal within the meaning of the statute, and, therefore, liable to duty.

Mr. SARGEANT CHANNON opened the case, stating that the action had been brought to protect the revenue of the City, which had been infringed by the defendants in importing their patent fuel into the port without paying the usual duty. The plaintiff maintained that the fuel was coal, imported in its present form in order to evade the Act of Parliament, and the present action was brought to try the question.

Evidence was then taken to prove the chemical character of the fuel.

Mr. BRAUNDE deposed to having analysed the patent fuel, and found that 1000 parts contained 927 parts of coal, and 73 parts coal-pitch or tar, to make the former cohesive; the coal did not seem to have undergone any change, but was in its natural state.

Messrs. COOPER and JACKSON corroborated this evidence. The former stated that, in several samples he had examined, the coal was in the proportion of 900 to 940 to the 1000 parts; and while some portions were well mixed and compact, others were very friable.

face the report in the *Mining Journal*, of a discovery made in this end; I consider that it is looking much better than expressed in that report—the lode contains copper from top to bottom of the end. As to the lead-lode in the cavern, such has a very promising appearance for lead at the present time—indeed, take all the points, I consider the mine will warrant the expectations of the adventure.—PHILIP SPENCER: Feb. 16.

KIRKCUDBRIGHTSHIRE.—I regret to state, that, since my last, a cessation of frost has created further delay, both in discharging sufficient in our dressing works—consequently, we have made but little progress in sinking Stewart's shaft; we have, however, cleared the leats of ice, and are now driving stonily splendidly. The lode in the end west, in the 30 fm. level, is beyond 4 ft. wide, producing half a ton of lead per fm.; the lode in the end east, in the same level, is 4 ft. wide, with two regular walls, containing a small mixture of lead; the stopes in the roof of this (30 fm. level) look well, producing about 2 tons per fm. The lode in the end east, in the 20 fm. level, is 3 ft. wide, composed of spar, prian, mandic, and spots of copper, which may be considered a very kindly lode, and indicative of an approach to lead; the stopes, in the east end of the winze, is producing three-quarters of a ton per fm.; the stopes, in the roof of the 30 fm. level, are poor; the same will apply to the end east.—JOSEPH BUZZ: Feb. 18.

LEWIS.—The 60 fm. level, east of Nutt's engine-shaft, is, during the last week, improved very much in quality, as well as in appearance, getting into just the same strata as we have in the 50 fm. level, worth 6 per fm. for tin, with every indication of a change for the better; we have now about 9 ft. more to drive, in order to get under the good tin which we have in the 50 fm. level; the lode in the 50 fm. level west is 2 ft. wide, yielding some tin, and very kindly. The lode in the 50 fm. level east is 18 in. wide, producing some tin, and promising; the lode in the 50 fm. level west, on south branch (for new lode), is 1 ft. wide, worth 6 per fm. for tin. The lode in the 40 fm. level end east, is 2 ft. wide, worth 7s. per fm. for tin; the lode in the winze, sinking under the 40 fm. level, is 6 in. wide, worth 3s. per fm. for tin; the lode in the 40 fm. level end west, on Scadden's branch, is 10 in. wide, producing occasional stones of good quality yellow copper ore, and very promising. The lode in the 30 fm. level end east is 2 ft. wide, worth 5s. per fm. for tin. All our tributaries are working with spirit, and making fair wages at their different tributaries.—S. S. NOELL: Feb. 18.

LOSTWITHIEL CONSOLS.—The operations in the south hill, prove of great importance—indeed, the lode last reported to as discovered, being worth an engine and engine cost, for its own sake—not to advert to the other points, which have been noted in my previous reports; this, I would observe, affords at least a speculative, or what we may call a “mining,” certainty of goodly quantities of ore at a moderate depth. There can be no doubt as to two, if not three, extensive lodes not far a-head.—J. OSFORD.

LLANOYNFELIN.—I have much pleasure in handing you my report of your property after my visit. I occupied one day in making arrangements for the supply of materials, examining surface operations, and giving directions for the effectually returning the ores at surface, and a second in minutely observing the prospects and work done underground. There are many minutiae which it will be unnecessary for me to trouble you with, in regard to such arrangements; I am, however, happy in being able to state, that your agents, Capt. W. Francis and Trewick, have done all in their power to render the arrangements worthy of the spirit out which has been made, and which the good prospects of the mine fully justify; and there is a principle of economy which does them great credit. At surface, there is a smith's and carpenter's shop, with a small part of the latter divided off, for the accommodation of the agent, keeping the accounts of the mine, and changing clothes, &c.; a house for small stores, &c.; an excellent engine, of 32-in. diameter cylinder, working steadily, with a very small consumption of coal for the duty it is doing, which, by working flat-rods, is keeping the water from the engine-shaft, grinding the ore, and arranged with and for working 16 stamp heads, and also intended to work flat-rods to Fearon's shaft, which is now driven 7 fm. Carpenters are now employed in placing the framework for stamping, and flat-rods, alluded to, to Fearon's shaft. A large reservoir is made for the supply, and condensing water, and conduits for the water for the dressing floors, with good arrangements for pumping the water back for these purposes. At the dressing floors, there are now 16 persons engaged in preparing the ore for market; and the burdles, tyes, jiggins, hatches, &c., well placed for returning the ores at surface, and capable of extension, as the produce of the mine justify. An ore house is now building, with an enclosed room at one end, for the security of the ore, dressing implements, and convenience of the chief ore dresser. I calculate that the ore now at surface will yield from, when dressed, 160 to 170 tons, which is being returned as fast as the arrangements will allow of; and I calculate such ore will fetch between 11s. and 12s. per ton, or about 2000*l.* in value. In the south part of this sett (in Capt. Jones's land), I have arranged to bring up an adit from the south, which will intersect three lodes of great promise, only partially worked upon by the ancients—on the north-western of which a shaft has been sunk, producing excellent ore, and in which there is now a good branch of ore, and, by driving on crosswise from this lode, there will eventually be a communication for ventilation, and working the lodes on the more northerly sides. Fearon's shaft is so placed as to command the middle and south lodes, and from which good ore has been risen, until the water was too powerful, but which, as before said, will be kept by the flat-rods now erecting for working from the engine. The chief operations of the Llanoyfelin Mine have, however, as yet been confined to a lode between that, before alluded to, and all the ore broken at and above an 8 fm. level, in addition to what has been extracted in former times; there are three winzes sunk upon the lode to an 18 fm. level—one east, communicating with the ore ground, in the 8 fm. level, at the bottom of which they are now stowing good ore ground, and two further west—all of which will be available in dividing the ground for future operations. The winze furthest west was commenced by myself in a former visit, to be sunk in order to communicate with the main engine-shaft, which is placed to take the lode at about 60 fm. in depth. In the 18 fm. level a cross-cut is now driving from end to shaft by 12 men; and, when communicated, which may take six to eight weeks, the ore ground at and above this level, will be taken away at a less expense; and, by sinking the shaft, the mine will be in a more extensive course of working. In conclusion, I am happy to say, that, taking into account the extent of the ground opened, the mineral character of the lode, and the perfect state in which you will in two months have all the machinery, I think the prospects are very great of having a profitable mine. Some specimens, casually broken from the 18 fm. level, gave soft lead 6*cwt.* 2*qr.* 7*lb.* in the ton of 20*cwt.*, and 9*oz.* of silver.—P. N. JOHNSON.

MENDIP HILLS.—Stanbury's shaft is sunk 14 fm., 5 ft. below the 38 fm. level; at this point the lode continues about 2 ft. 6 in. wide, principally composed of quartz and iron, with a little flookan, ground hard for sinking; the 38 fm. level is extended south of shaft about 14 fm., where we have a very large lode, composed of soft spar, spots of lead and flookan, with large rocks of limestone intermixed; we are at present driving the end on the foot wall part of the lode, which is very regular in its course, ground favourable for driving. In the smelting department, but little has been done during the past week, in consequence of the severity of the weather; however, it is more favourable to-day; I hope to get on as usual. We are still opening some good galls, but not as thick as we have had it. It might not be amiss my stating, we must not expect to find the galls regular; we shall, undoubtedly, sometimes find it in great quantity, and at other times not so much. The samples taken from this place, and forwarded to London for assay (mentioned in a former report) contain 5*cwt.* 2*qr.* of lead per 20*cwt.* of galls.—R. C. HARPER: Feb. 16.

NORTH WHEAL ABRAHAM.—The shallow adit level, on James's, or the south lode, is driven 13 fm. west from Champion's shaft—has opened one ground for 8 fm. in length, which will be taken away at 8s. 8d. 2*qr.* 2*oz.* the present end is suspended in consequence of the shallow depth—the lode being principally gossan; the deep adit is now cleared, and the level being extended west of the same shaft, the lode in the present end is exceedingly promising, worth 3*l.* per fm. for copper ore, leaving good back and bottom—expense of driving, 8*s.* per fm. Evans's shaft is suspended, in consequence of surface water, until the deep level is driven sufficiently west to drain it; at the same level we have extended a cross-cut, and intersected Water's, or the north lode—it is a foot wide, composed of gossan, mandic, and spots of copper ore, having every indication of improving in depth—its underlay is about a foot per fm.; in the south, upon the middle lode, nothing further has been done; but we intend driving a cross-cut from either the north or south lode, for the purpose of proving it at the deep adit. We intend sampling the 23d March, when we shall have 20 tons of ore, worth 7*s.* per ton. We are convinced, from the flookan east and west, the close texture of the ground north and south, and the underlay of the lodes, that this mine can be worked to any depth, without being effected by any water from the neighbouring mines.—W. HIBBERT: Feb. 17.—[We have seen some excellent stones of ore from the shallow adit, from whence they have risen about 20 tons: the deep adit is about 7 fm. deeper; and, from the appearance of the course of ore in the former, there is very little doubt of their making great returns, as they have now reached the ore in this adit. We congratulate the enterprising adventurers on this early important discovery; and they may reasonably calculate on a good and lasting mine, if we were to take into consideration its proximity to some of the oldest and richest mines in the country].

SOUTH WHEAL TRELAWEY.—Stell's engine-shaft is sunk 17 fm. from surface, the ground in which is a beautiful light blue tinge, interspersed with prian heads, fluor-spar, and spots of rich yellow copper ore; within the last 6 fm. we have intersected two branches, 6 in. wide, of fluor-spar, mandic, and spots of copper; underlying west, towards Sobeys's lode, the strata appears to be mineralized in every part of the shaft, and the ground is favourable enough just now. There was a sinking hole shot in the shaft this day, which broke a horse-whim kibble full, so you may judge accordingly—the water appears to be moderate on the whole, considering the depth and locality—we shall, therefore, lose no time in sinking it as fast as possible, and as deep as we can, previous to setting the engine to work. Sobeys's lode, in the adit level

south, is 2 ft. wide, composed of gossan, mandic, prian, flookan, and occasionally spots of lead; the ground is not so favourable for driving as we have oftentimes seen it.—W. LEAN: Feb. 18.

SOUTH TAMAR UNITED.—Part of the engine is brought at the quay, the bob, cylinder, and different parts, so that the engineers may commence hoaving in. The men in the adit are getting on very well in clearing the level, and taking up the water.—B. ROBINS: Feb. 16.

TAMAR SILVER-LEAD.—In the 160 fm. level the lode is 1 ft. wide, composed of capel and ore; in the same level, north of the shaft, the lode is 9 in. wide, composed of flookan and ore, a very promising end. In the 145 fm. level the lode is 2 ft. wide, composed of capel, can, and ore; in the same level north the lode is 2 ft. wide, carrying rich lead of ore. In the 135 fm. level south the lode is 3 ft. wide, composed of horn, spar, mandic, and ore. In the 125 fm. level the lode is 2 ft. wide, producing rich work. In the rise, in the back part of 85 fm. level, the lode is 18 in. wide, producing good saving work. We sample, on Thursday, the 4th inst., 104 tons 10 cwt. 2 qr. of rich silver-lead ore. At the North Mine, the lode in the 70 fm. level is 3*ft.* 6*in.* wide, composed of capel and mandic, at present poor. In the 60 fm. level the lode is 2*ft.* 6*in.* wide, composed of capel and can, with strings of ore.—J. SPEAGRE: Feb. 18.

TINCROFT.—We have done but little in the bottom level at our north mine since my last report. The lode in the 90 fm. level east is 20 in. wide, producing some good quality ore, and kindly; we are driving north from our 90 west, as by dialling we find we must have more lode in that direction; the north lode, in the 90 east, is 20 in. wide, grey throughout, and very promising. A winze in the bottom of the 80, beyond this end, is producing good quality ore we are now driving north to cut this, the north lode, to the east of the cross-course; the 80 end east is producing saving work for tin, and very promising the lode in the 80 west is 2*ft.* 6*in.* wide, worth 3*l.* per fm. for tin. We have just commenced sinking a winze below the 70, to come down on the 80 end, which is producing some ore. The 70 and 60 ends are producing some ore, and kindly. The 50 end has improved recently, now worth 10*s.* per fm.; we shall hole a winze on this end in a short time, which will enable us to raise more ore from the backs. Our tribute department, on the whole, is looking pretty well. Since my last report we have intersected a very promising lode, containing good stones of ore in the adit south from East Wheal Croft; we expect soon to cut the lode on which we intend to drive towards new shaft. In the south mine, we continue to raise fair quality tinstuff from the 152, 142, 120, and 110 ends, and stones below the 100 fm. level, and from the pitches at the different levels. Chapel's lode, in a winze below the 90, is still looking well; we expect to hole to a rise in the back of the 100, in a day or two, after which we shall be able to raise much more ore from this lode than we hitherto done. We shall soon complete Wheal Providence adit, to Wheal Providence lode, and be able to explore on that lode below the adit, where we expect to find some good ore.—WILLIAM PAUL: Feb. 15.

TRELEIGH CONSOLS.—At Christie's shaft, below the 100 fm. level, sinking in the country, the rise, above the 100 east, was holed on Saturday morning, the 100, west of ditto, is driving south-west in the country. The winze below the 90 east, is holed on the rise in the back of the 100 fm. level. At Garden's shaft, below the 90, sinking in the country, the ground is very hard in the rise, above the 90 west, the lode is 20 in. wide, producing but little ore. In the winze, below the 90 west, the lode is 2 ft. wide, with a small quantity of ore; in the 80, east of ditto, the lode is 18 in. wide, worth 3*l.* per fm., and a very kindly lode. In the 70, west of ditto, the lode is 15 in. wide, snort kindly than it has been, with stones of ore; in the 70, west of Good Fortune, the lode is 3 ft. wide, worth 8*s.* per fm. In Symons's shaft, below the 60, the lode is 4 ft. lode, producing good stones of ore. In the 40, west of ditto, the lode is 1 ft. wide, and but little ore. In the 20, west of ditto, the lode is 1 ft. wide, very promising, worth 5*s.* per fm.—W. SPROSONS: Feb. 13.

UNITED HILLS.—In the 90, east of Williams's shaft, the lode is 4*ft.* 4*in.* wide, worth 8*s.* per fm.; in the 90, west of ditto, the lode is 3 ft. wide, worth 2*ft.* per fm.; in the 80, west of ditto, the lode is 2*ft.* wide, worth 18*s.* per fm.; in the 80, west of cross-cut, west of Williams's, the lode is 3*ft.* wide, worth 18*s.* per fm.; in the 80, west of cross-cut, west of Williams's, the lode is 18 in. wide, worth 18*s.* per fm. In stopping the eastern shaft, the lode is 4*ft.* wide, worth 20*s.* per fm. In the shallow adit end east the lode is 8 ft. wide, worth 4*s.* per fm. At Wheal Charles, in the 50, east of Gibson's shaft, the lode is 2*ft.* wide, producing but little ore. In the 40, east of ditto, the lode is 6*s.* wide, worth 8*s.* per fm.; in the 30, east of ditto, the lode is 6*s.* wide, worth 18*s.* per fm.; in the 20, east of ditto, the lode is 6*s.* wide, worth 20*s.* per fm. In the 10, east of ditto, the lode is 6*s.* wide, worth 20*s.* per fm. In the 10, east of eastern shaft, the lode is 2*ft.* wide, worth 20*s.* per fm. In the shallow adit end east the lode is 8 ft. wide, worth 4*s.* per fm. At Wheal Sparrow, in the 40, west of Tonkin's winze, the lode is 18 in. wide, worth 5*s.* per fm.; in the 40, east of Turner's shaft, the lode is 18 in. wide, worth 4*s.* per fm. In the 30, west of Turner's shaft, the lode is 3*ft.* wide, worth 6*s.* per fm. In the adit end west of Turner's shaft, the lode is 1*ft.* wide, poor.—THOMAS TREVENEN: Feb. 13.

VICTORIA TIN.—Since my last, we have recommenced sinking our engine-shaft, the ground being highly favourable for sinking. In bringing home our shallow level, to carry off the water from the shaft, we intersected No. 1 lode, showing very fine stones of tin—this lode is being highly encouraging. We are progressing very favourably, and the water-wheel is working admirably well, the pumps are on the mine to put us down to the 12 fm. level.—JAMES CHYNOWETH: Feb. 17.

WEST POLGIUS AND TRELLOWETH.—We examined the lode at the adit end, and in several places found it large, and very promising, with good stones of ore, some flookan, and jack; without going into every particular respecting it, we consider that enough was seen at the adit to induce the adventurers to give the mine the trial she has had; but we regret to say that, although the lode has been extended east and west of the engine-shaft, 170 fm., and the 27 fm. level extended 110 fm., east and west of the said shaft, that nothing has been discovered so far worth noticing; indeed, we may say, (with the exception of a short piece of ground in the back of the 15 fm. level east), that below the adit level, the lode has been uniformly poor; we cannot, therefore, recommend your continuing to work further on this lode—with exception of extending the 15 fm. level east, to get under some promising ground passed through in the adit. In the 27 fm. level, a cross-cut has been driven north 15 fm., in which a small lode has been intersected about 6 in. wide, composed of mandic, spar, and stones of copper ore—this lode is underlaying about 12 fm. in 6 ft. north; to the north of the last-mentioned lode, another branch is just now being intersected about 3 in. or 4 in. wide, of the same character as the former—the strata about these lodes (or lode and branch) is quite congenial for mineral; we, therefore, recommend you to extend east and west, on the first lode intersected in the cross-cut; and, as we are given to understand, that there is another lode about 30 fm. beyond the present cross-cut, we strongly recommend you to continue the said cross-cut till you intersect it; the ground is cheap to excavate, so that you may calculate on finding the lode beyond in two months; as you have a kindly piece of ground to the west of the present adit end, we think you would do well to continue your adit in that direction, especially, as by doing so, you will fall in with an even course, which very likely will have the effect of improving the lode.—W. PAUL: Feb. 2.—The particulars of the meeting of adventurers, held on the 2d inst., appeared in the Journal of the 6th.]

WEST WHEAL JEWEL.—In the 115 fm. level, east of cross-cut, on Wheal Jewel lode, the lode is 20 in. wide, worth 4*s.* per fm. In the winze, in the bottom of the 100 fm. level, east of cross-cut, on the same lode, no lode taken down in the past week. In the winze in the bottom of the 80, west of cross-cut, on the same lode, we have got into the wall of the shaft—we shall be able to report the size and value next week. In the 70 fm. level, west of Williams's cross-cut, on the same lode, the lode is 20 in. wide, worth 9*s.* per fm.—this lode has a more promising appearance than we have seen it before in this level. In the 12 fm. level, west of old pump shaft, on Tolcarne tin-lode, the lode is hoed, and the 38 fm. level continues about 2 ft. 6 in. wide, principally composed of quartz and iron, with a little flookan, ground hard for sinking; the 38 fm. level is extended south of shaft about 14 fm., where we have a very large lode, composed of soft spar, spots of lead and flookan, with large rocks of limestone intermixed; we are at present driving the end on the foot wall part of the lode, which is very regular in its course, ground favourable for driving. In the smelting department, but little has been done during the past week, in consequence of the severity of the weather; however, it is more favourable to-day; I hope to get on as usual. We are still opening some good galls, but not as thick as we have had it. It might not be amiss my stating, we must not expect to find the galls regular; we shall, undoubtedly, sometimes find it in great quantity, and at other times not so much. The samples taken from this place, and forwarded to London for assay (mentioned in a former report) contain 5*cwt.* 2*qr.* of lead per 20*cwt.* of galls.—R. C. HARPER: Feb. 16.

NORTH WHEAL ABRAHAM.—The shallow adit level, on James's, or the south lode, is driven 13 fm. west from Champion's shaft—has opened one ground for 8 fm. in length, which will be taken away at 8*s.* 8*d.* 2*qr.* the present end is suspended in consequence of the shallow depth—the lode being principally gossan; the deep adit is now cleared, and the level being extended west of the same shaft, the lode in the present end is exceedingly promising, worth 3*l.* per fm. for copper ore, leaving good back and bottom—expense of driving, 8*s.* per fm. Evans's shaft is suspended, in consequence of surface water, until the deep level is driven sufficiently west to drain it; at the same level we have extended a cross-cut, and intersected Water's, or the north lode—it is a foot wide, composed of gossan, mandic, and spots of copper ore, having every indication of improving in depth—its underlay is about a foot per fm.; in the south, upon the middle lode, nothing further has been done; but we intend driving a cross-cut from either the north or south lode, for the purpose of proving it at the deep adit. We intend sampling the 23d March, when we shall have 20 tons of ore, worth 7*s.* per ton. We are convinced, from the flookan east and west, the close texture of the ground north and south, and the underlay of the lodes, that this mine can be worked to any depth, without being effected by any water from the neighbouring mines.—W. HIBBERT: Feb. 17.—[We have seen some excellent stones of ore from the shallow adit, from whence they have risen about 20 tons: the deep adit is about 7 fm. deeper; and, from the appearance of the course of ore in the former, there is very little doubt of their making great returns, as they have now reached the ore in this adit. We congratulate the enterprising adventurers on this early important discovery; and they may reasonably calculate on a good and lasting mine, if we were to take into consideration its proximity to some of the oldest and richest mines in the country].

SOUTH WHEAL TRELAWEY.—Stell's engine-shaft is sunk 17 fm. from surface, the ground in which is a beautiful light blue tinge, interspersed with prian heads, fluor-spar, and spots of rich yellow copper ore; within the last 6 fm. we have intersected two branches, 6 in. wide, of fluor-spar, mandic, and spots of copper; underlying west, towards Sobeys's lode, the strata appears to be mineralized in every part of the shaft, and the ground is favourable enough just now. There was a sinking hole shot in the shaft this day, which broke a horse-whim kibble full, so you may judge accordingly—the water appears to be moderate on the whole, considering the depth and locality—we shall, therefore, lose no time in sinking it as fast as possible, and as deep as we can, previous to setting the engine to work. Sobeys's lode, in the adit level

WHEAL BARBARA.—In the end east the ground is somewhat improved since last week; but, in the lode, I find no material alteration—it is still very large, producing a little lead, copper, and mandic; looks very promising for depth. In the ravine, the ledges look remarkably well, composed chiefly of lead and jack, with small portions of copper and mandic. I have suspended the driving of this end for the present, until it shall be determined where we shall sink below adit. *Vera.* 30.—The lode in the ravine adit end is at the bottom of the level, about 4*ft.* 6*in.* wide, with a lead very rich, for ore about half the size. I intend, after the completion of the present stent (2 fm.), to direct a cross-cut south from that point to the intended new shaft. I have a party of men who are to begin the shaft to-morrow, and which I expect will be complete to adit by this day week; the shaft will take the lode at 12 or 15 fm. under adit; but it is intended to cross-cut 10 fm.—at which point, from the very promising appearance at the adit level, I expect to find a

ore to 8 fms. worth 6d. per ton; in the 150 end, driving east, the lode is 8 ft. wide, yielding 2 tons of ore to a fm. worth 6d. per ton. In the 180 end, driving east, the lode is small, producing stones of ore; this end is within about 12 fms. of the course of ore gone down in the bottom of the 150 fm. level. The tribute ground is looking very well; and, taking the mine altogether, we can with truth declare, that it is looking better at the present time than at any past period since we have been connected with it. The old pitwork has all been drawn up from Stray Park engine-shaft, and sold by public auction, which (exclusive of the 60-in. cylinder engine, and a large quantity of useful timber) realised nearly £600. The engine remains unused, but we have no fear of getting a purchaser for it at our fixed price—viz., £500.

EAST POOL.—A meeting of adventurers was held on the mine, on Tuesday last, when the following accounts were passed:—By sale of ores, less dues, £7502. 2s. 2d. To balance at last account, 812. 7s. 5d.; costs, &c., for Dec. and Jan., 645. 9s. 10d.—7282. 17s. 3d.—leaving balance of 237. 4s. 11d.

EAST WHEAL ROSE.—A meeting of shareholders was held at the Royal Hotel, Truro, on Tuesday last, when the accounts were submitted and allowed as follows, and a dividend of 30d. per share was declared:—By balance at last account, 2749. 13s. 7d.; sales of ore (less lord's and Stannary Court dues), 12,639. 12s.; received of Cargoll adventurers for agency, &c., 967. 3s. 8d.—15,485. 16s. 3d.—To costs, merchants' and cost bills for Novem. and Decem., 6596. 7s. 10d.; costs for new machinery, 852. 19s. 4d.; taxes and discounts, 1522. 11s. 1d.; dividend of 30d. per share, 3840.—11,441. 18s. 8d.: leaving balance in favour of the adventurers, 4043. 18s.

ROSE-IN-VALE CONSOLS.—A meeting of adventurers in this concern was held at Penryn, on the 29th ult., when the accounts, showing a balance in favour of the mine of 11. 3s. 1d., were passed. It was determined to purchase an engine of the Treteil adventurers for £600, and a call of 2d. per share was made for the immediate working of the mine.

WHEAL SETON.—At a meeting of adventurers, held at the mine, on Tuesday, the 9th inst., a statement of accounts was presented, showing amount in hand 4014. 7s. 9d.: the costs having been examined were allowed, and a dividend of 20d. per share declared, leaving 2034. 7s. 9d. balance in hand.—The sales of copper ore were—Nov. 5, 2271. 16s. 2d.; Dec. 8, 3263. 1s.—less 1-15th lord's dues, 368. 12s. 1d. The costs for Nov. were 1217. 16s. 3d.; for Dec., 969. 6s. 9d.; founders and merchants' bills, 1031. 9s. 10d.—3218. 12s. 6d.—The balance left in hand from Oct. account, was 2066. 15s. 6d.—The following report from Capts. P. Rabey and S. Lean was read to the meeting:—In the 90 fm. level, east of Bull's shaft, on Bull's lode, the lode is, 15 fm. wide, containing occasionally stones of copper. In the 90, west on the south counter lode, the lode is 21 ft. wide, composed of spar, mundic, and stones of ore. In the 70 fm., west of ditto, lode divided by a horse of killas; we are carrying the north part, which is 5 ft. wide, worth 30d. per fm.; the south part of the lode is worth 10d. per fm.—this end is about 15 fms. before the 70; the stopes about 3 fms. behind the end, in the back of this level, are worth 40d. per fm., the lode in the winze, sinking below this level, 10 fms. behind the end, is 5 ft. wide, and worth 15d. per fm. The 40 fm. level, west on ditto, has been suspended, and the men put to sink a winze in the bottom of the level, lode 4 ft. wide, worth 8d. per fm. The 80 fm. level, west on the north counter, is extended about 6 fms. from the cross-course; we are carrying only 6 ft. of this lode, which is worth 50d. per fm. The 70 fm. level, west of ditto, is extended about 16 fms. from the cross-course, lode worth 30d. per fm.; the lode in the winze, sinking below this level, is worth 120d. per fm. In the 60 fm. level, west on ditto, we are still driving on the south part of the lode, which is worth 40d. per fm.; the stopes in the back and bottom of this level, from 5 fms. to 10 fms. behind the end, are worth 150d. per fm. The 50 fm. level, west on ditto, is extended about 16 fms. from the cross-course, this lode is worth 120d. per fm.; the winze sinking below this level, has been communicated to the 60 fm. level in the past week. In the 40 fm. level, west on ditto, lode small and unproductive, being but a short distance from the cross-course. The new engine at Tilly's shaft has been in course of working for about three weeks, and is now drawing the water from Bull's shaft, the old engine having been disconnected, in order to be repaired to enable it to work the eastern and north parts of the sett.—It was then resolved, "That the agents be requested to press on the repairs of the engine at Wheal Cocks shaft, with a view to working the eastern and northern part of the mine without delay."

MERIONETHSHIRE SLATE AND SLATE SLAB COMPANY.—We some time since called the attention of our readers, to the formation of a company, for working some valuable slate quarries situate in Merionethshire; and we have now pleasure in referring to the first return of working, which shows a profit of 822. 3s. 10d. on the past three months' produce, from Oct. 1 to Dec. 31, 1846. This amount of profit, when the expenses and difficulties of commencing a new work are considered, places the company in, we think, a very flattering position; and when the resources of the quarries are fully developed, we have no doubt the shareholders will find they have embarked in a permanently profitable undertaking.

PANTDRANIOG QUARRY SLATE COMPANY.—In writing a few weeks ago on the subject of slate quarries in Wales, we took occasion to refer our readers to the engineer's report on this quarry, and pointed out a few of the advantages possessed by it over most other undertakings of a similar nature. The most prominent of these, was the fact, that there was as large a quantity as 80,000 tons of marketable slate now uncovered, and that it only required the necessary capital to be expended, to render this valuable property a source of great profit to those who might embark in it. In another part of our paper of to-day will be seen an advertisement from the Merionethshire Slate Company, in which it is stated that the profits since the commencement of working in Oct. last will enable the company to pay 5 per cent. dividend on the calls. From all that we hear, we are inclined to think that the Pantdranioq Quarry is in a much better position than that of the Merionethshire Company, and for this reason, that it has its "plant" in complete readiness to commence working immediately, and in less than a fortnight they may have slates in the market. The following extract from the report of Mr. Arthur Dean, C.E., may not be out of place:—"A stock of about 100 tons of wrought-iron rails, 60 waggons, 12-horse power steam-engine, blacksmith and carpenter's shop, stables, &c., carts and waggons for conveying the slate to the shipping place, &c., constitute the 'plant' of the quarry, and are immediately available for carrying on the business of the concern." There is no royalty upon the slates, but the quarry is held under a lease which does not expire till 1903, at a very small annual rent, much lower than the royalty usually charged. We are not aware at present of a better investment for capital than a good slate quarry, and we do not think that those who become shareholders in the Pantdranioq will have any reason to repent of the choice they make.

THE ALBERT ADVENTURE.—The mining sets of Meilenoweth and Cold Harbour, with the adjoining property of Pelews, in the parishes of Phillack and Gwinnar, have been taken up by a party of London adventurers, who are preparing to work them under the name of the "Albert Adventure." The sett of Pelews has been inspected by Capt. W. Paul, of Tincroft, who reports as follows:—I have visited this sett, and examined the south lode; there is a great sameness in it, for the whole length of the adit being about 28 ft. wide on an average, composed of arsenical iron pyrites, quartz (soft spar), with occasional spots of lead, I consider it a kindly lode, deserving your attention, but I do not calculate on any very material alteration, till it be seen at the 29 or 30 fm. level below the adit. I next examined the cross-cut, from No. 8 shaft north, in which I discover several small branches, most of which are strongly mineralised, chiefly with mundic, jack, and lead, in a strata which to me appears much more congenial for the latter than any other ore; from one branch I broke some good stones of lead. The north lode for 3 or 4 fms. east and west from the cross-cut, is about 20 in. wide, composed of mundic, jack, and lead, with occasional spots of copper ore. The lode in the ends does not appear quite so promising as a little from them behind, changes of this kind frequently occur in all lodes; on the whole, I have a favourable opinion of this lode, especially as the branches to the south contain the same sort of mineral, and will fall in with it in depth—indeed, the cross-cut for several fathoms in length is strongly mineralised, and ground very cheap to excavate. Had there been no other lode in the sett than those already opened on, I think any company would be justified in setting up an engine of sufficient power to develop their resources, but I have been told that there is another lode about 9 fms. to the south of that now called the south lode, which was seen by the former workers, and was thought very highly of. Now, my advice is, that lode be seen again before you decide on a spot for an engine; driving the cross-cut for this purpose will occupy about two months, when I can examine the ground again, and advise you how to proceed.

ACCIDENTS.

West Bromwich.—J. Millward fell out of the ship and was killed, at Messrs. Salter and Rybould's Colliery.—J. Jones was killed at Mr. T. Davis's Colliery, Conishead Works.—P. Croony was killed while working here.

Hutton Colliery.—J. Helmley was killed by a fall of stone in East Minor Pit.

Coppisfield Iron-Works, Wolverhampton.—J. Westwood was killed here.

Pelcott Iron-Works.—W. Nicholls was killed by a fall of coal.

Accident at Brierley Hill.—J. Hughes, furnace keeper, was killed by an explosion of hot metal—in consequence, it is believed, of the water which runs round the tuyeres being stopped by some accidental means. The tuyeres had been thoroughly repaired a week previous to the occurrence; the water was supplied from a cistern on the top of the engine, and a little dirt or mud would stop the pipe.

Explosion of a Boiler at Darlaston.—Three men and a girl were injured by the explosion of a boiler at Messrs. Biles and Mills's iron and steel works—the proprietors, Mr. Booth (their clerk), and many workmen, narrowly escaped.

Delabole Slate Quarry.—M. Amy and J. Martyn were seriously injured by an accident here: it appears that the quarrymen, about 20 in number, having dispatched a loaded wagon, which was hauled away in the usual manner by the engine to graze when, through the inattention of the engineman, the engine was not stopped at the proper time (for which purpose a bell is rung previous to the wagons reaching the landing place), no notice thereof was taken; the wagon came in contact with the parapet head and broke the chain, when the wagon and its contents, about 3 tons of stone, were thrown to the bottom.

PRICE OF MATERIALS,

As Charged at the Stray Park Mine in the following months of 1846—

| Description. | Rate. | Oct. | Nov. | Dec. |
|-------------------------|---------------|---------------|---------------|---------------|
| Coal, carriage included | 18d. per ton. | 18d. per ton. | 18d. per ton. | 18d. per ton. |
| Timber, bark | 3s. | 3s. | 3s. | 3s. |
| Iron, common | 10s. 6d. | 10s. | 10s. | 10s. |
| " Aggated | 10s. 6d. | 10s. | 10s. | 10s. |
| Nails, patent | 19s. 0d. | 19s. 0d. | 19s. 0d. | 19s. 0d. |
| Rope | 0 4s. | 0 4s. | 0 4s. | 0 4s. |
| Yarn | 0 4s. | 0 4s. | 0 4s. | 0 4s. |
| Hemp | 0 4s. | 0 4s. | 0 4s. | 0 4s. |
| Tallow, best | 47s. 6d. | 47s. 6d. | 47s. 6d. | 47s. 6d. |
| Gum, patent | 2s. 0d. | 2s. 0d. | 2s. 0d. | 2s. 0d. |
| Oil, rape | 2s. 0d. | 2s. 0d. | 2s. 0d. | 2s. 0d. |
| Lead, white | 1s. 2d. | 1s. 2d. | 1s. 2d. | 1s. 2d. |
| Leather | 2s. 0d. | 2s. 0d. | 2s. 0d. | 2s. 0d. |
| Candles, best | 2s. 0d. | 2s. 0d. | 2s. 0d. | 2s. 0d. |
| Powder | 3s. 0d. | 3s. 0d. | 3s. 0d. | 3s. 0d. |
| Hilt, scabbard | 1s. 0d. | 1s. 0d. | 1s. 0d. | 1s. 0d. |
| Sick | 1s. 0d. | 1s. 0d. | 1s. 0d. | 1s. 0d. |
| Shovels, iron | 3s. 0d. | 3s. 0d. | 3s. 0d. | 3s. 0d. |
| Whin kibbles | 19s. 0d. | 19s. 0d. | 19s. 0d. | 19s. 0d. |
| Wash tub | 4s. 0d. | 4s. 0d. | 4s. 0d. | 4s. 0d. |
| Engine shag | 0 6s. | 0 6s. | 0 6s. | 0 6s. |
| Safety fuse | 0 4s. | 0 4s. | 0 4s. | 0 4s. |

TIRES FOR LOCOMOTIVE CARRIAGES.—The following suggestion, elicited by the opinions expressed by Messrs. Gooch and Braithwaite, at the inquiry as to the cause of the late fatal accident on the Great Western, deserve attention:—"I have for several years given considerable attention to the subject of the manufacture of iron for locomotive carriages and other purposes; and I am convinced, from practical experience, that *tires for locomotive carriages should be composed of one entire circle without welding*. These tires should also be *constructed from scrap iron*, which, after reworking, forms a material superior in texture and strength to the quality of iron now used, while the cost of manufacture would not exceed the present method. As I am in possession of the plan by which such an improved mode of tire can be constructed, I shall feel obliged if you will give these imperfect remarks a place in your valuable columns, as I am thoroughly satisfied that, if the suggestion to which I have alluded be generally adopted in the manufacture of wheels for locomotive carriages, similar accidents to that which lately occurred on the Great Western may be prevented, and thus a great loss of human life be spared."—GEORGE SCOTT, Engineer: *Bowes-street, Feb. 16.*—We are informed also, that Mr. W. Exall, of Katesgrove Iron-works, Reading, has turned his attention to this subject, and succeeded so satisfactorily, as to be induced to secure his invention by a patent, which he anticipates the recent accidents will bring into general use. We shall readily afford both parties space for a description of their relative plans.

SALE OF MINE SHARES BY AUCTION.—We learn, by the *Falmouth Packet*, that the following lots, submitted to sale by auction on Thursday, realised the prices annexed:—*Wheat Reech*—5 shares at 18s. each; 1 at 17s.; 1 at 16s.; 1 at 15s.; 1 at 14s.; 1 at 13s.; John Battin, Esq.; 10 shares at 16s.; 5 at 15s.—26s. 9s.

John Richards, Esq.; 1 at 17s.; Mr. Bennett; 1 at 15s.; Capt. J. Williams; 1 at 15s.; E. H. Rodd, Esq.; 1 at 15s.; Mr. J. Daniell.—*Baldwin*—128s. for 26s.

IMPROVEMENTS IN SMELTING.—Mr. T. Bell, of the Don Alkali Works, South Shields, has recently patented an improved process for obtaining sulphuric acid from the ore of copper during the roasting of the ore. For this purpose the ore in powder is placed on the shelves of a common roasting furnace, such as is in general use in the smelting of copper ores. To this furnace a roasting kiln is attached by a flue, which enters 2 ft. from the bottom, and is from 150 ft. to 200 ft. in length; in the kiln copper ore is also put, but in lumps; near the end of the flue there is a jet of steam, which, adding to the draught of furnace, coke, anthracite coal, or charcoal, may be used instead of bituminous coal. The top of the kiln is arched over, and a flue passes through the top into a vitrill chamber.

Near that end of the flue which enters the vitrill chamber, the steam jet passes into the centre of the flue. During the roasting of the ore sulphuric acid is formed, which, in passing through the flues is mixed with the aqueous vapour, and partly becomes condensed into sulphuric acid; in this state it passes into the vitrill chamber, and collects on the floor; at the same time, the uncondensed sulphuric acid gas and steam, on passing into the vitrill chamber, meet with nitrous acid gas, produced by acting on saltpetre, or nitrate of soda, by strong sulphuric acid. But still, much of the sulphuric acid escapes condensation; this is afterwards condensed in columns of coke, previously exhausted as described in a former patent (dated November 8, 1846, for improvements in the manufacture of sulphuric acid), or by means of a high chimney. The claims are for the use of coke or charcoal in obtaining sulphuric acid from copper ore, in the manner above described; and also for using the columns of coke in combination with exhaustion, in the manner above described.

VALPARAISO, NOV. 27.—Freights. copper ore to Swansea, £1. 15s. and 5 per cent.; ditto nitrate to London, £1. 5s. and 5 per cent.; ditto to Liverpool, £1. 1s. 6d. and 5 per cent.; light freight to London or Liverpool, £1. 1s. 6d. and 5 per cent.

GENERAL MINING COMPANY FOR IRELAND.—We are glad to learn that 40 tons of silver-lead ore, from the Shale Mines, was been shipped, per the *Charlie*, of Wexford, for Messrs. Mullins Brothers, Battersea.—We were this morning advised of the safe arrival of the *Charlie* in the Thames, with the above cargo.

IMPORTATION OF SILVER FROM CALLAO.—The *Antonio*, of London, arrived at Newhaven Harbour, on Tuesday, laden with a cargo of silver from Callao, stated to be in value nearly 80,000*l.* It was on Thursday removed to Lewis, in three railway vans, and was then despatched to London by rail-road. It reached the Bank of England yesterday morning.

RUSSIAN GOLD MINES.—Accounts received at St. Petersburg, from Nijni-Novgorod, state that 428 pounds of gold, in bars—being equivalent to 21,032 lbs. English—carrying from the mines of Barmon, in Siberia, and destined for the imperial mint—had passed through that city.—The value of this in English money is £1,88,500.

ALGOLD MINES OF BORNEO.—Amongst the islanders of the Eastern Archipelago, a system of social economy exists, which closely approximates in its nature to the ultimate state of things at which the working classes of this country seem to be desirous of arriving. In the gold mines of Borneo, for instance, every labourer is a proprietor; while this system is very prevalent throughout the majority of the islands, not only in their mining operations, but also in the manufacture of various other articles for exportation.

EXTRAORDINARY BLOCK OF SOLID COAL IN FRANCE.—A single block of coal has lately been extracted from the St. Caroline Pit, on a portion of the collieries belonging to the Rothschild Company, which, for weight and dimensions, is supposed to exceed anything ever before raised in France. The largest blocks being usually from 800 to 1000 lbs., this monster, which weighs 5000 lbs., has caused much interest in scientific circles; and, if possible, will be sent to Paris, entitling to be deposited in the Royal Geological Museum.

CONTRACTS FOR WORKS.—**BIRMINGHAM, WOLVERHAMPTON, AND DUDLEY.**—The directors met at their offices, in Birmingham, on Monday last, to receive tenders for the construction of works included in Nos. 1 and 3 contracts on this railway. The first embraced that part of the line, between Great Charles-street, and Vyse-street, Birmingham, was obtained by Mr. G. C. Pawling, of Manchester; the second, which included the line between the junction at West Bromwich, Staffordshire, to Priestfield, near Wolverhampton, was obtained by Messrs. Frost and Bates, of Wednesfield. Nine tenders were sent in; those accepted are under the Parliamentary standard, and the works are to be completed by the 1st of August, 1848.

PROGRESS OF IRON MANUFACTURE IN SCOTLAND.—We learn that the heaviest shaft ever made in Scotland has just been completed at the works of the Monkland Iron and Steel Company. It weighs upwards of 104 tons, and is said to be one of the best pieces of workmanship that has ever been produced in this part of the kingdom. The shaft was made at the Moffat forge of the Monkland works, under the superintendence of Mr. John M'ara, upon whom it reflects the greatest credit.—*Saturday Post*.

DREDGERS.—On the 10th inst., at his residence, 9, Castle-street, Edinburgh, James Butler Williams, Esq., secretary to the Caledonian Railway Company,

RAILWAY TRAFFIC RETURNS.

From these returns, it will be seen, that the amount of traffic for the last week, on nearly 2730

Current Prices of Stocks, Shares, & Metals.

| STOCK EXCHANGE, Saturday morning, Eleven o'clock. | | | |
|---|-----|--------|------------------------------|
| Bank Stock, 7 per Cent. | 204 | 31 | Belgian Bonds, 4½ per Cent. |
| 3 per cent. Reduced Ann. | 91 | 8 | Dutch, 2½ per Cent., 66½ |
| 3 per cent. Consols Ann. | 91 | 90 | Brasilian, 5 per Cent., 56½ |
| 3 per cent. Annulles. | — | — | Chilian, 3 per Cent., 63½ |
| 3½ per cent. Ann. | 90 | 4 | Mexican, 5 per Cent., 29½ |
| Long Annuities, 9½ | — | — | Spanish, 5 per Cent., 23½ |
| India Stock, 10½ per Cent., 250½ | — | — | Ditto 3 per Cent., 35½ |
| 3 per cent. Consols for Acc. | 91 | 90½ | Portuguese, 4 per Cent., 34½ |
| Exchequer Bills, 1000, 1d. | 5 | 1 p.m. | Russian, 5 per Cent., 112½ |

MINES.—Although there has not been so much business done in the mining share market during the week, as we noticed in our last Number, yet, upon the aggregate, we find that many shares in several mines have changed hands.

We believe that the quotations of last week have been maintained generally, although, in some instances, a rise has taken place—whilst in a few there has been a falling off; but these fluctuations are too frequently the result of circumstances unconnected with the position or prospects of a mine.

We have to notice an improvement in Herdfoot—shares in which have been done at an advance upon our last; the sale of 25 tons of silver-lead ores at 15½ lbs. per ton, with improved prospects, has caused this move. Wheal Jane has improved, and business done in a few shares. Pennants have been much in demand, and have, consequently, advanced in price; and we think, from present appearance, a great rise is likely to take place in these shares. North Wheal Abraham have also been done, but more especially in the county—its proximity to the Old Wheal Abraham, and Crewe, and Binner Down Mines, has rendered this mine a favourite, and buyers are freely found in Cornwall. Kingston Down Consols are held in esteem—so much so, that they are held too firm by her few adventurers to change hands at a low figure; several shares have been sold this week. Wheal Seton dividend, of 20½ per cent.—share for the past two months, was received here on Saturday last; the captain's report presents one of the most gratifying we have ever seen. Stray Park has also paid a dividend since our last of 14 per share. Great Roughton Consols have been inquired for, in consequence of an important discovery having been made, although we are not aware of any shares having been sold. West Maris (Tin Mine) have been in request, and several shares have changed hands. Trellawney have also been in request. In the Ecton Mines, several shares have been sold at an advance. Shares in the following mines have been transacted:—Tamar, Callington, Calstock, Perran Wheal Virgin, Pen-nants, Conduor, Herdfoot, Bedford United, Trebene, West Providence, Tremayne, Mendip Hills, West Treasury, East Croft, Trevikey and Barrier, North Roscar, Wheal Jane, Cleveland, West Tolgus, West Seton, North Wheal Abraham, West Wheal Jewel, Kingston Down Consols, &c. &c.

In the foreign share market, we do not learn that much business has been done, than in Australasia, Bolanos, and Aftens.

RAILWAYS.—The share market during the week has been more cheering, and the tone of business better, indeed, than for some time. A few purchases of Birmingham and Oxford raised the price 7s. to 8s., the scrip being taken at 9s. An improvement has also taken place in the London and North Western, the Midland Counties, the Dover, Brighton, and North of France. At Birmingham, Bristol, Leeds, and Manchester, business has been more active, and prices looking up.

MEETINGS.—LONDON AND NORTH WESTERN: half-yearly general meeting: a dividend of 5½ per 100, stock, up to the 31st December, was declared. A call of 5½ will be made in April, and another in July, on the London and Birmingham quarter shares of 1843.

ROSTON AND HITCHIN: half-yearly meeting; the capital to be called up for constructing the railway—the line having been abridged would only be 200,000ft., being 6½ per share. An agreement had been made with the Great Northern to assign the lease of this line to them, at an annual rent of 12,000. GREAT WESTERN: half-yearly meeting; the balance now disposable is 218,855½, 19s. 7d., and a dividend of 4 per cent. for the half-year ending 31st December last, was declared to the registered proprietors. The accounts show the capital account to be 9,825,610½, 18s. 9d., and the expenditure 9,714,538½, 11s. 2d.; the receipts for the past half-year were 513,846½, 18s. 10d.—SOUTH EASTERN: a special general meeting; the draft of the eight bills for extensions proposed by the directors were submitted, and also the by-laws, which were adopted. The next half-yearly meeting is appointed for March 26.—NORTH UNION: the annual meeting; the amalgamation in the London and North Western will allow the dividends henceforth to be paid without deduction.—MADAS: general meeting; but little progress has been made since the last meeting, and the directors are in daily expectation of receiving the issue of the negotiations with the Bengal line, so as to offer their opinions as to the advisability of proceeding with the line, or taking steps to wind up the company.

GLOUCESTER AND FOREST OF DEAN: second half-yearly meeting; the directors are proceeding to purchase the land required for the undertaking, having already obtained a large part; docks are to be constructed at Gloucester, to facilitate the transit of minerals, &c.—LYNN AND ELY: a special meeting; to consider a proposed agreement to be entered into with the Eastern Counties, in conjunction with the Ely and Huntingdon, and Lynn and Dereham Companies; a resolution was passed, amalgamating this company with the two others, under the title of the East Anglian Company—the same resolutions were also passed by the two former.—THE RIVAL LINES TO WINDSOR: at a numerous meeting was resolved to take every means to support the Windsor, Shaines, and South Western.—MANCHESTER, SKEFFLING, AND LINCOLNSHIRE: first ordinary meeting; the balance-sheet showed the receipts to be 1,819,024, on the capital; and the expenditure, 1,678,108½, 1s. 7d.—leaving in hand, 140,916½, 18s. 6d.; the receipts for the half-year were 55,277½, 18s. 5d., after deducting the expenditure, leaves a balance of 17,248½, 18s. 7d.—A dividend of 2½, 18s.; for every 100, Sheffield and Manchester shares was agreed to.—BOSTON, STAMFORD, AND BIRMINGHAM (Wiskeb and Spalding): half-yearly meeting, which was afterwards made special; to consider an agreement for lessing the line to the Great Northern, and the Extension Bills promoted by the company; the directors have also made a call, payable on the 1st March, of 11, 14s. per share—the agreement was confirmed.—

BRIGHTON AND CHESTERFIELD: at the half-yearly meeting, yesterday, it was announced that the Portsmouth Extension line for the first eight miles, from Chichester to Havant, would be opened in March, and the whole distance by the end of May; until then they could not legally sell it to the Brighton. The expenditure, from the 30th June to December 31st, had been 220,479½, 18s. 8d.—LONDON: BRIGHTON, AND SOUTH COAST: ordinary half-yearly meeting; the gross revenue for the six months was 328,059½, 17s. 2d.; working and other expenses, 50,836½, 18s. 9d.; disposable balance, 137,223½, 10s. 5d.—enabling a dividend of 3½ per cent. on the half year upon the consolidated stock, and of 2½ upon the fifth shares; the accounts of receipts was 5,912,680½, 18s. 3d., after deducting the expenses, leaves 96,396½, 18s. 2d.—WATERFORD, WEXFORD, WICKLOW, AND DUBLIN: at the second adjourned meeting the report showed the receipts, from deposits of 17, 10s. per share, amounted to 112,779½; expenditure, 39,833½, 16s. 4d.—leaving a balance of 72,957½, 18s. 8d.; the third day's meeting was adjourned until the 7th.—TRENT VALLEY: half-yearly meeting, at Bristol, on Thursday; the report stated, that there had been an increase in the revenue from passengers of 10,832, in merchandise 942, and coal 1378; the latter arising from the opening of new quarries at Abergavenny and Rhondda. The double line, from Cardiff to the Navigation-house, was nearly completed, and surveys were being made for the new branches. They were now contracting for 500 wagons, in addition to the existing stock of 300. The increased income and reduced working expenses enabled the directors to declare a dividend of 32½, on each original share of 162½.—TAPP VALLEY: half-yearly meeting, at Bristol, on Thursday; the report stated, that there had been an increase in the revenue from passengers of 10,832, in merchandise 942, and coal 1378; the latter arising from the opening of new quarries at Abergavenny and Rhondda. The double line, from Cardiff to the Navigation-house, was nearly completed, and surveys were being made for the new branches. They were now contracting for 500 wagons, in addition to the existing stock of 300. The increased income and reduced working expenses enabled the directors to declare a dividend of 32½, on each original share of 162½.—

LEEDS, FRIDAY.—There has been rather more business done in our market during this week; and, in most instances, at slightly advanced rates: the very small quantity of stock offering, and the more favourable appearance of the foreign exchanges, are tending, we think, to strengthen prices.

HULL, THURSDAY.—The share market remains in a state of inactivity. Fleetwoods are strong, and in request—infused chiefly by Preston and Wyre and Manchester and Leeds arrangements. North Staffordshires, we believe, after next meeting, will pay interest on calls. At a meeting (to-day) of the Blackburn, Darwen, and Bolton, and Blackburn, Clitheroe and North-Western Companies, the proposed amalgamation of the two companies, on equal terms, was approved of—provided the directors forthwith issue to the proprietors of the amalgamated company a pro rata allotment of new stock, guarantee a minimum dividend of 6 per cent. per annum—the amount of such allotment of new stock to be not less than 200,000. The mismanagement of the Indian railways, by Government, is a strong proof how much good would be done by its mediation with the English railway system—we are glad to see the Times admit that in part. At the meeting of the Hull Banking Company yesterday, a dividend of 15s. was declared; the shares advanced 10s. Since the rejection of Mr. Hudson's offer (last Wednesday) by the North British, he has made them, through his representative, a better one, which the directors decided to offer, 8 per cent. on all the stock, but the branches to take only 7 per cent. for the first year after opening, from 1st January next. Carlisle Extension to go for their bill, and, if successful, to be placed on the same footing; and, if the line be hereafter obtained, the scrip quarters to have the preference of the stock, or they may now take 10½ shares, of 2½, 18s. each.

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Buddle's West Hartley 17—Davison's West Hartley 17—Tandfield Moor 20—West Hartley 17—West Wyman 20—Wall's End Barnard 18½—Hotspur 18½—North-amer 19½—Bradby's Hetton 22½—Hutton 23—Lambton 23—Stewart's 23—Whitwell 19½—Caradoc 22—Hudson's Hartlepoo 22—Kellow 22—Adelaide Toss 22—Seppings 15½—Cragg 23—Howard's West Hartley Netherton 17.—Ships at market, 125.

WEDNESDAY.—Buddle's West Hartley 16½—Davison's West Hartley 16½—Hollywell Main 18½—Hollywell Main 18½—Hollywell Main 18½ to 19—End Brown's Gas 15½—Northumberland 19½—Eeden Main 21½—Stewart's 23—Whitwell 19½—Caradoc 22—Hudson's Hartlepoo 21½—Howard's West Hartley Netherton 16½—Haswell Nuts 13½—Ships at market, 89.

FRIDAY.—Buddle's West Hartley 16—Chester Main 18½—Hollywell Main 18½ to 19—Ords Redheugh 16—Tandfield Moor 16½—West Hartley 16½—Wall's End Bewicke and Co. 19 to 19½—Hebburn 18½—Hilda 18½—Hotspur 18½—Killingworth 18½—Walker 18½—Haswell 23—Stewart's 23 to 23—Seymour Toss 21—Howard's West Hartley Netherton 16½—Ships at market, 84.

NEW PATENTS.

E. Edge, Howard-street, St. Clement's Danes, Middlesex, for certain improvements in rails for railways, and in the manner of securing them.

W. E. Newton, Chancery-lane, Middlesex, for improvements in aerial locomotion.

R. S. Newall, Esq., Gainshead, for certain improvements in locomotive engines.

W. Breynton, Inner Temple, London, for improvements in rotatory engines.

PRICES OF MINING SHARES.

| BRITISH MINES | | | | BRITISH MINES—continued. | | | |
|---------------|---------------------------|-------|--------|--------------------------|---------------------------|-------|--------|
| Shares. | Company. | Paid. | Price. | Shares. | Company. | Paid. | Price. |
| 1000 | Abergwesin | 6 | 11 | 256 | South Tolgus | 3½ | 15 |
| 256 | Albert Consols | 1 | 4 | 300 | South Towns | 10 | 14 |
| 1824 | Alfred Consols | 4½ | 10 | 256 | South Trellawney | 15½ | 15 |
| 235 | Andrew and Nangle | 2½ | 18½ | 128 | South Yeovald | 16½ | 20 |
| 1000 | Barristown | 4½ | 25½ | 128 | South Wheal Basset | 110 | 110 |
| 4000 | Bedford | 2½ | 4 | 124 | South Wh. Francis | 160 | 170 |
| 128 | Besore Lead Mine | 14 | 30 | 256 | South Wh. Hope | — | 5 |
| 256 | Birch Tor Tin Mine | 2½ | 14½ | 1000 | South Wh. Maria | 25 | 25 |
| 3000 | Blaenavon | 50 | 40 | 256 | South Wheal Rose | 113 | 2 |
| 100 | Bottomack | 17½ | 22½ | 10000 | Southern & Western, Irish | 2 | 45 |
| 120 | Brewer | — | 7 | 256 | St. Austell Consols | 8 | 18 |
| 10000 | British Iron, New, reg'd. | 10 | 18½ | 94 | St. Ives Consols | — | 390 |
| — | Ditto ditto, scrip | 10 | 19 | 128 | St. Michael Penkivel | 5 | 7 |
| 125 | Budnick Consols | 52½ | 45 | 1000 | Stray Park | 43 | 23 |
| 128 | Burth | 2½ | 21 | 256 | Ting Tang | 15 | 23 |
| 100 | Bwcl Cwmerlin | 20 | — | 1024 | Tavy Consols | 5½ | 7 |
| 256 | Calstock | 17 | 35 | 6000 | Tincoff | — | 5 |
| 1000 | Callington | 24 | 23½ | 128 | Tobkeny | 140 | 17½ |
| 256 | Caradon Consols | 47 | 5 | 256 | Trohane | 2 | 22 |
| 256 | Caradon Copper Mine | 24 | 1 | 5000 | Truleigh Consols | 6 | 3 |
| 256 | Caradon Mines | 15 | 15 | 128 | Trenow Consols | 30 | 40 |
| 256 | Caradon United | 24 | 10 | 96 | Treysavan | 10 | 200 |
| 256 | Caradon Wh. Hooper | 12 | 5 | 1000 | United Hills | 5 | 1 |
| 1000 | Carn Brea | 15 | 90 | 128 | Trethellan | 5 | 35 |
| 2048 | Carmarthen Consols | 3 | 2 | 120 | Trethick and Barrier | 130 | 135 |
| 112 | Charlestow | 200 | 175 | 256 | Trowellack | 20 | 25 |
| 166 | Cleveland | 9 | 53 | 128 | Trewellard | 12 | 26 |
| 1900 | Combarth | 7½ | 11 | 6000 | United Hills | 5 | 1 |
| 1000 | Comblaw | 2 | 21 | 1000 | United Minas | 300 | 500 |
| 128 | Comfort | 45 | 35 | 10240 | Victoria Tin | 1 | 1 |
| 5000 | Con-Trelof Mining Ass. | 5 | 4 | 256 | Wellington Mines | 15 | 30 |
| 256 | Condor | 20 | 25 | 128 | West Basin | 45 | 45 |
| 1256 | Cook's Kitchen | 24 | 4 | 256 | West Caradon | 20 | 160 |
| 1000 | Copper Bottom | — | 5 | 128 | West Wheal Shepherd | 5 | 2 |
| 1024 | Cosheen | 40 | 30 | 1256 | West Wheal Treasury | 14 | 7 |
| 120 | Craaddock Moor | 15 | 15 | 1256 | West Wheal Treasury | 14 | 7 |
| 128 | Craig Braws | 20 | 300 | 1256 | West Wheal Treasury | 14 | 7 |
| 502 | Cubert Mine | 12 | 27 | 1256 | West Wheal Treasury | 14 | 7 |
| 7100 | Devant | 8½ | 5 | 120 | West Seton | 40 | 46 |
| 1024 | Devon and Courtney Co. | 5 | 3 | 120 | West Trethellan | 5 | 25 |
| 186 | Dhuliod | 2 | 5 | 256 | West Unded Hills | 24 | 6 |
| 160 | Dolcoatl | 80 | 60½ | 256 | West Wh. Friendship | 74 | 74 |
| 10000 | Durham County | 45 | 9 | 3045 | | | |

Original Correspondence.

CARBO-OXIDE.

SIR.—That such a compound of iron, carbon, and oxygen, enters into the composition of wrought, or bar-iron is clearly impossible. Analysis has never detected in wrought iron the slightest trace of oxygen, so that no compound of oxygen with iron can exist in iron of this description, whether it be hammered, rolled, or "squeezed," as the latter abortion of all improvement is called. Whenever cast-iron is comparatively free from phosphorus, arsenic, and sulphur, in combination with the iron, the fibre, strength, and hardness of the bar-iron prepared therefrom, will depend solely upon the uniformity of the privation of carbon throughout the mass. If the carbon has been almost completely and uniformly dissipated, the fracture of the bar will exhibit a perfectly fibrous structure; if, on the other hand, the carbon shall have been partially, or only locally, got rid of, the bar will exhibit a coarse granular fracture, or a mixture of fibrous and granular structure; and this defective structure is but too prevalent in bar-iron prepared from cast-iron, by the ordinary method of puddling, arising from the impossibility, by mere manual labour, of exposing every portion of the puddling-furnace charge to the decarbonating action of the flame. When, however, the process of decarbonation is assisted and accelerated by the introduction into the puddling-furnace of an oxidized substance finely pulverised, such as hematite, tin-scale, mill-scale, lime, clay, manganese, &c., which, by an uniform dispersion throughout the charge, presents its oxygen to the carbon of the cast-iron, thereby depriving iron of its superfluous carbon, and becoming itself metallised, then only does the process of puddling become available for the production of a superior quality of bar-iron. When the puddled-balls thus produced are subjected to the action of a powerful hammer, not merely is the cinder, or glass, of iron forcibly expelled, but the particles of the mass are made to undergo, amongst themselves, an amount of friction proportional to the force of the blow, whereby intense heat is generated, and a portion of the cinder is deoxidized by the remaining particles of carbon, which pass off with the oxygen as carbonic acid; whilst the lump remains beneath the action of the hammer, and until every atom of cinder has been expelled. When puddled-balls are simply rolled, or squeezed, and then rolled into mill-bars, a far lesser amount of internal friction takes place amongst the particles of iron—less of the latent carbon is dissipated, and the bar-iron obtained is in consequence more granular, and less fibrous than bar-iron drawn under a hammer. By piling and reheating rough bars, so as to enclose their oxidized surfaces, and then subjecting them to the action of a hammer, a still further privation of carbon is effected, by the deoxidation of the included oxidized surfaces, and the bar thus manufactured is again more fibrous than were its component parts when piled for reheating. Hammer scale being an oxide of iron, is of service in the puddling-furnace—but it is a poor substitute for finely-pulverised hematite, as it is more or less mingled with silica, and yields up its oxygen more slowly to the carbon of the cast-iron. When oxides are thus introduced during the process of puddling, carbonic-oxide is formed, passing rapidly into carbonic acid, by union with a portion of the carbon of the flux; and if carbon be added, in mixture with the oxide, this chemical action is facilitated—the carbon, chemically combined with the iron, uniting with the oxygen of the auxiliary oxide to form carbonic-oxide whilst the carbon, mechanically combined with the auxiliary oxide, unites with this carbonic oxide to form carbonic acid gas, which then passes off. Thus, gray cast-iron, which is, in fact, nothing more than white cast-iron, with a mechanical admixture of carbon, offers greater facility in puddling, towards the production of a superior kind of bar-iron, than white cast-iron can possibly afford. That puddled iron should retain a portion of the cinder, or carbo-oxide, is as improbable as that quicksilver should retain within itself particles possessed of a lesser specific gravity than that substance. The form of the hammer, or of the rollers, which is sufficient to compress and unite the dense and heavy particles of iron, is far more than sufficient to expel every atom of the lighter and more fluid glass of iron.

So, in welding—the surfaces to be applied are brought to a state of semi-fusion, and are, of course, oxidized by the blast of the bellows upon their outer surfaces; and when placed in contact, and struck by the hammer of the smith, the glass of iron, which encases them, flies off on every side, and the partially-fused surfaces unite. That this carbo-oxide has nothing to do with the welding of the iron, may be easily made manifest, by subjecting pieces of bar-iron, filed bright, to a welding heat, enclosed in a crucible; free from the access of air, the welding will take place quite as well as if oxygen and carbon had been present. I cannot agree with "Scrutator," that perfectly pure malleable iron is deficient in strength or hardness; but its hardness is not of that pernicious character which characterises ordinary bar-iron, arising solely from imperfect dissipation of the latent carbon, and invariably accompanied by a degree of brittleness, or cold shortness, in exact proportion to its hardness. Perfectly pure, or nearly pure, malleable iron, can only be produced by the fusion of a pure oxide, without the presence of carbon; and iron thus produced combines in itself the maxima of hardness, toughness, strength, and ductility. To obtain the best quality of bar-iron from the impure pig-iron, which, upon a large scale of manufacture, must always be produced, the gray pig-iron as ran from the blast-furnace should be at once deprived of its carbon, without undergoing the deteriorating processes of refining and puddling; when this process shall obtain, and be adopted, the quality of British bar-iron will be raised as far above par, as it now falls under the standard of mediocrity; and we shall no longer meet with bar-iron exhibiting the granular structure of good cast-iron, but inferior far in point of strength and possessing hardly a vestige of the characteristics of malleable iron, properly so called. I think that the puddled-ball, placed as "Scrutator" describes, in the reheating furnace, would merely resolve itself into glass of iron, as layer after layer of the metal became oxidized, and, therefore, more fusible than the nucleus of iron.—R. MUSHET: *Coleford, Feb. 8.*

ORGANIC REMAINS.

SIR.—The announcement by Mr. Moshet in your last, of organic remains having been found in the granite of Guernsey, is a new fact to me, and, I doubt not, to geologists generally; and we certainly should be careful to distinguish the circumstance under which granite is found. That it is of different eras of formation, there can be no doubt; and the mineralogical structure of the rock is so very various, as to lead us to believe that granite is a very indefinite term, and its members singularly diversified; besides, syenite has been often confounded with granite, and there is a granite which is syenitic in its character. When we consider the phenomena of the granitic veins in the Island of Arran, traversing the clay-slate, it seems impossible to view the granite otherwise than having been injected in a state of igneous fusion. On the other hand, there is, if I remember right, in the Scilly Isles, what has been called "regenerated granite." It is quite conceivable that organic remains might be enveloped in reconsolidated granite, resulting from the degradation of granite rocks, and their subsequent agglutination. As I shall probably have soon the opportunity of investigating the circumstance in *propria persona*, I should feel obliged if Mr. Moshet would state precisely the locality in Guernsey where the palaeozoic granite may be examined *in situ*.

Basalt includes a variety of members, as whinstone, greenstone, &c. It is certainly impossible to regard calcarous basalt as that of the Giant's Causeway, Staffa, Lago Balsenno, &c., otherwise than of igneous origin. At the same time, it is quite conceivable that from partial and imperfect fusion, organic bodies might escape entire obliteration, and some trace of organic structure might still remain. If I mistake not, Professor Silliman, of Yale College, U.S., has referred to facts in corroboration; and I think I have noticed among the lavas, and other ejecta of Vesuvius, phenomena which might serve to validate the conclusion; besides, it occurs to me, that both bituminous and liquid matter have been found in basalt.

The mere specific gravity of gneiss and primitive limestone, as referred to by Mr. Moshet, in antagonism to my views, does not, in the slightest degree, in my estimation, invalidate the position. As the Biblical narrative forms no part of my present argument, I must leave that question in Mr. Moshet's hands, only reminding him that the cases I have cited, of the organic remains of man, give "no uncertain sound." I did not refer to an isolated or disjointed fact, but to several facts clear and unequivocal; and which, in all honesty, must be viewed in their aggregate character and integrity. Mr. Moshet might as well enter his caveat against the remains of quadrupeds, as having been found in the tertiary formation—comparatively recent discovery. Mr. Moshet is, no doubt, aware that his assumption directly contradicts Buckland's version of the deluge-days. He seems also to express himself in favour of a universal deluge, repudiated by Buckland, Lyell, Phillips, Sedgwick, and others. As I am contending for, and with, matter of fact, and not matter of opinion, I

must henceforth entirely decline to notice any remark, incidental or otherwise, on the facts I wish to put on record in your pages, leaving them to their ultimate fate. Facts, not fiction, is my end and aim. J. MURRAY: *Portland-place, Hull, Feb. 16.*

THE COST-BOOK SYSTEM.

SIR.—May I ask the favour, through the medium of your Journal, of an answer to this question:—Is a sale of shares before the grant of a lease, legal? The following are the particulars:—On the 5th July, 1845, I buy of J. L. five shares in a mine, asserted by him to be called —; I receive from F. T., "purser pro tem," the accustomed letter of the receipt of transfer. Being introduced to J. L. by a gentleman of respectability, I did not put the question—have you a title to transfer? The fact is, however, that at the time of such transfer, no title had passed from the proprietor of the mine to any individual, nor has any passed to the present time. Be pleased to acquaint me what course I should adopt. I am advised that the transfer is based in fraud; but, as the law of the Cost-book System is in many respects peculiar, and one also to which your Journal has been of late freely open for inquiry, I trust I may be excused for thus troubling you. Feb. 15. W. J. H.

STAFFORDSHIRE COAL SEAMS—THICKNESS.

SIR.—It having been stated that there are seams or beds of coal in Staffordshire 15 yards and upwards in thickness, you would much oblige by either confirming or negating such statement.

Manchester, Feb. 15.

A CONSTANT READER.

[We have never heard of a bed 45 feet thick; but the 10-yard coal is worked, and which we believe to be the thickest known.]

VENTILATION OF MINES—DR. CLANNY'S LAMP.

SIR.—It was not my intention to notice the unjust and very erroneous attack made upon me and my new safety lamp, in the penultimate Number of the *Mining Journal*—but having a few days ago received a letter from a much-valued friend, in which he urges me to refute the concluding paragraph of the person who, under the letter "V," dated from Newcastle, I think it my duty to attend to his advice, though the task is any thing but agreeable to me, as an individual desiring to live in peace with all the world. I will not trouble your readers and yourself by quoting any paragraphs from the said anonymous correspondent. I am well assured that no person in Newcastle would thus attack me, for the inhabitants of that great town have too much courage to write against me anonymously, as I have experienced for nearly 50 years.

The anonymous correspondent risks the *bold* assertion, that my new safety lamp is unsafe on account of its glass cylinder—than which nothing can be more incorrect or unjust. The fact is, that the strongest and most safe part of the cylinder of this safety lamp, is the despised glass of the anonymous person, for it is so constructed, as to surround the flame—is exactly, when in its place, 12 in. $\frac{1}{2}$ in. in thickness, and 12 in. in diameter, inside measure. The glass is of the first quality and purity. The atmospheric air readily finds its way downwards to the flame within the glass cylinder—consequently, the glass is never heated, as far as I can ascertain, above the 110° or 112° degree, as has been many times proved—not even in any of our fiery mines. This safety lamp has often been dipped in cold water, after it had been lighted in some of our deepest mines for several hours; and a fracture even of the glass did not take place; nor has accident, as far as I can learn, taken place in using my new safety lamp; but, on the contrary, in two extensive collieries the pitmen petitioned, verbally, that this safety lamp might be given to them as a boon, which was granted. In other coal mines this safety lamp is employed in dangerous places. After trials of at least five years, I have never yet heard a whimper of disapprobation of my safety lamp in respect to its safety, or deficiency of light, except by the above-mentioned anonymous correspondent. I have in my desk a list of the names of the collieries in which my safety lamp is patronised, and will have much pleasure in showing it to any respectable person who may be desirous of seeing it. I had, more for the satisfaction of those who employ this safety lamp, ordered brass grill, lest the glass might by any chance be struck against any hard substance—but this precaution is not now in operation, as the pitmen prefer the greater light without it, and it is now made at the manufactories without this guard: so much for danger. I am afraid in defending myself, and maintaining the truth, that I may appear egotistical—far from it, but quite the contrary; for, as a man conversant with science, I have had more honours conferred upon me than I have deserved, and desire nothing more. A friend of mine leaves this for London in a few days, and by him I will send you one of my safety lamps for the inspection of yourself, and such friends as may be inclined to call at your office, in order to see it.—W. REED: *Sunderland, Feb. 17.*

VENTILATION OF MINES—DR. CLANNY'S LAMP.

SIR.—I observe, in your last Number, an anonymous attack upon the improved Clanny safety lamp; and, were it not for *obvious reasons*, I would not condescend to notice it—besides, some persons may be led to oppose that which is just and right. I will premise my remarks by including a *brochure*, entitled, "Testimonials on behalf of Dr. Clanny's improved safety lamp," which I happen to have by me, and which will set the matter at rest, containing the commendations of 10 persons in its favour, and those persons of great respectability as colliery viewers, and as men of science. In respect to my humble communication, *upon principle*, in behalf of Dr. Clanny, I will only give one common quotation from Latin:—

"Non cogit nisi ausilio." In continuation, I now refer to your last Number: I will not give you the trouble of reprinting the most incorrect and unauthenticated remarks, or rather unauthenticated strictures, under the anonymous letter "V." In the first place, Dr. Clanny's safety lamp is more safe than any other given to the community. In the second, I am satisfied that, at least in 8 or 10 collieries, they are in use; and that, in Mr. Alderman Copeland's collieries, in Staffordshire, the pitmen refused to use any other than the "Clanny" since the 5th of Jan, 1845; also, in the great coal mine of Messrs. Pemberton and Co., at Monkwearmouth, this safety lamp has been substituted for the "Davy" for some time—in a word, the "Clanny," from my knowledge of two manufactories in Newcastle-upon-Tyne, in which the Clanny safety lamp is manufactured, the impression has for some time been entertained that none but the "Clanny" will be used henceforth in our collieries. The guard, or grill, surrounding the glass of the "Clanny," is now dispensed, as the well-annealed glass, which surrounds the flame is *half-an-inch* in thickness, and is never heated when in use, above 110° or 112° of Fahrenheit's thermometer, even in an explosive atmosphere—therefore, neither the "heat of the flame, nor the water of the wet mine," can, by any possibility, produce a "fracture of this glass, nor cause an explosion." "Twas I who made the giants, and then I slew them," which the letter "V" may take for his motto. The said personage also states, without the least authority or justice, "That such a construction" (viz.: the "Clanny") has been condemned almost universally, both by practical and scientific men. Now, what is the fact? I protest I have not seen, in print or writing, one word which bears the letter "V" out; nor have I heard in the counties of Northumberland or Durham, well known to me, any *vis a vis* remark to that effect, except the observations of Dr. Murray in your valuable Journal; and to this I will make, if needful, a voluntary oath. Dr. Clanny, it is well known, not only "attempted," but had the gratification of carrying into a coal-field of fire-damp his original safety lamp, for which he was awarded to my knowledge the highest honours which the Society of Arts can bestow, and which he considers almost equal to the star which he proudly bears upon his breast as a man of science. Dr. Clanny's original safety lamp was continued in use in the Harrington Mill-Pit and the Leefield Collieries, in the county of Durham, till they were superseded by his steam safety lamp. Let the viewers, or pitmen, answer the false and libellous slander, that "his friends should attempt to foist the most dangerous that was ever projected into the fiery mines of Britain." None but an anonymous writer could dare to make such an *unfounded and unjust* assertion, and for which he will have to answer elsewhere. Again, we have the notable words of the "snake in the grass." "I would, in the mines under my charge, indefinitely prefer Dr. Murray's to Dr. Clanny's glass, and so would every miner I have spoken to upon the subject." So "V." calls himself a viewer; I will venture to challenge this pseudo viewer, or pseudo philosopher, to come forward, and I will prove him to be ignorant of the subject, and a traducer. Again, we have, "glass lamps will never be employed in our mines." Let the several mines in which the "Clanny" is employed, and also the coal mines in which it is coming into use, in Staffordshire, Monmouthshire, Northumberland, and Durham, give the lie to such an assertion. Again, I will remark, that, from the safety and strong light afforded by the "Clanny," it may be called the "pitman's pet." I am sorry that a sincere friend and admirer of Dr. Clanny, as a man of science and humanity,

have been betrayed into strong expressions; but I confess I was indignant that an anonymous writer was permitted to place before the world such a production as that which appeared in your last Number. "He that runs may read." My friend, Dr. Clanny, may say, in good truth, in the words of our immortal bard—"Let the galled jade wince, my withers are unwrung."

Kirby Stephen, Feb. 8.

T. R. TORBOCK, M.D.

VENTILATION OF MINES—MR. GIBBONS.

SIR.—At the present stage of the discussion between your several correspondents on this important subject, I feel myself called upon to state a few facts, which would only have been an act of justice on the part of Mr. Gibbons to have stated in his pamphlet on mining, before allowing it to go before the public. He states that his Kingswinford Colliery is, and has been, perfectly free from inflammable gas, and that his workmen have suffered no inconvenience whatever: allow me to ask Mr. Gibbons, how it was that Charles Tomlinson, and a lad named Henry Oakley, were, by an explosion of fire-damp, on the 6th of April last, so severely burnt at his Kingswinford Colliery, as to be unable to resume their work for six weeks?

Also, on the 7th of last April, John Kaley, alias "Pottery Jack," so severely burnt by an explosion, as to be unable to return to his work for one month. I would ask, how came this about, with a pit so free as represented in his pamphlet? Doubtless, your readers are well aware that this is the colliery where Mr. Gibbons tells us his improved mode of ventilation is brought to such perfection. These are stubborn facts, and obtained from the lips of the men who suffered; and if Mr. G. had done the public that justice which was due, there would have been no necessity for the present exposure. When Mr. Gibbons was speaking of the cost of his air chimney, I think he would have been nearer the mark to have stated 14s. or 15s. a yard, instead of 5s. or 6s., which, if there is to be two, would form a considerable item in the cost of construction, in a pair of shafts of 140 yards deep, together with a ventilating stack 100 ft. high, which would, probably, cost 300*l.* more; and if fire is requisite, there will be entailed for attendance another 100*l.* per annum—and when all is done, what is it? I would say, not half so effectual as the present powerful furnace system, as the whole column of air, 7 ft. diameter, rushing down the downcast shaft, has to be discharged after expansion has taken place through that throttled aperture, the summit of the ventilating stack, which I presume would be "shaving rather too fine," with all the liability of his air chimney being pulled to pieces, by getting the upper or lower seams. Your correspondent, "W.," in reply to "V." in the *Mining Journal* of the 31st January, says Mr. Gibbons has never intended abandoning the use of fire; but allow me to refer "W." to the following extract from Mr. Gibbons's pamphlet, at page 3 (though, I must say, not very courteously towards those gentlemen who, I presume, have laboured more for the amelioration of the miner than Mr. Gibbons has, and surely deserve a meed of praise, or a passing notice); he says, "let me here protest, in *kindine*, against *all artificial modes*, and in this category I include *fire*; I condemn them *in toto*, as snares and delusions under the guise of protection. *Fire* for the purposes of rarefaction of the air may, in some cases, prove an useful *auxiliary*, but can never be relied upon for a protector. It may be *out* when it ought to be *in*, and then what becomes of the family committed to its guardianship. By the term *artificial*, I mean all power which is *not* self-acting, but requires the constant action of machinery or the *aid* of men."—With respect to obstructions to air currents, I see Mr. D. Musket, Jun., has been pleased to give us a recapitulation of Mr. Gibbons's note at page 6 of his pamphlet, in the *Journal* of the 6th inst. According to the old system, Mr. G. says, that it acts highly detrimental to the ascending current to have an empty skip or corfe running down the shaft against such current, but neither Mr. Gibbons nor Mr. Musket say one word against the current descending against a *loaded* skip or corfe coming up the downcast shaft; in the latter case with its size augmented at least one-third, and the resistance offered, of course, is in proportion. Far be it from me, Mr. Editor, to throw any impediment in the way of an improvement that is calculated to ameliorate the condition of the miner: I am fully convinced that a discussion of no subject will be hailed with more pleasure by the correspondents of the *Mining Journal*, than the one in question; but for the full development of a *sound principle*, nothing is more requisite than that it should be conducted with truth and impartiality—a step towards which I hope I have taken, and for the space allotted I feel grateful.—HENRY JOHNSON: *Dudley, Feb. 15.*

THE ATMOSPHERIC SYSTEM.

SIR.—By giving further consideration to the subject of a stationary mercurial gauge, indicating the highest mean velocity which can be attained on an atmospheric railway, I have arrived at this conclusion—viz., that that sign would not exist with an atmospheric apparatus properly constructed—consequently, it is not identified with the principle of that system. In page 9 of Mr. Stephenson's report on the *Dalkey line*, there is an account of 10 experiments; the first three agree with the theory I have advanced on this subject in my former letter—but the remaining seven do not, having indicated a stationary mercurial gauge, and uniform velocity to the trains. My object now, is to show that the first three were sound in principle, but that the other seven went beyond the capability of Mr. Samuda's apparatus to give a faithful result. In doing this, I shall state the pressure per square inch on the tube piston, calculated from the mercurial gauge, and also six of the experiments in Mr. Stephenson's report.

Pressures.—1st, 6.95 lbs.; 2nd, 8.49 lbs.; 3rd, 8.89 lbs.; 4th, 9.4 lbs.; 8th, 10.52 lbs.; 10th, 11.23 lbs.

"The first train was 232 tons weight, and was started with a vacuum of 8.3 in. of mercury; the velocity was accelerated up to 30 miles per hour, and the barometer rose to 13.7 in.

"The second train was 247 tons weight, and started with a vacuum of 8.6 in.; the velocity was gradually increased, until it reached 35 miles per hour, the barometer having risen to 16.7 in.

"The third train was 25 tons weight, and started with 9.7 in. vacuum; the velocity was accelerated to 38 miles per hour, and the barometer rose to 17.6 in.

"The fourth train was 26.5 tons weight, and started with a vacuum of 8.7 in.; the velocity and pressure attained a steady maximum of 34.7 miles per hour, and 18.5 in. of mercury.

"The eighth train was 36.8 tons weight, and started with a vacuum of 10.7 in.; the velocity and pressure attained a steady maximum of 28.3 miles per hour, and 20.7 in. of mercury.

"The twelfth was 42.5 tons weight, and started with a vacuum of 8.6 in., having been slightly assisted in starting by the downward incline; the velocity and pressure attained a steady maximum of 25.7 miles per hour, and 22.1 in. of mercury.

With reference to these experiments, Mr. Stephenson observes (p. 2, 3)—

"Suppose that a train of a given weight were attached to a tube piston, it is clear that no motion would take place until the air in front of the piston was sufficiently exhausted, to cause an excess of pressure of the atmosphere on the opposite end of the piston, equal to the resistance of the train, when the train would be started, and acquire an accelerating motion until the maximum velocity was attained, which would then continue uniform—that is, until the space passed through by the piston in the tube, during a single stroke of the air-pump, should equal the content of the air-pump. Hence, we perceive, that whether the train be great or small, provided it can be put in motion, the maximum velocity attainable (by the atmospheric system) will, in all cases, be the same; and it is this part of the motion that we are chiefly interested in investigating."

To show the fallacy of this opinion, which I wish to do with as much respect as possible, I shall suppose a snow-storm has stopped the traffic of an atmospheric line, and the mechanical action of the tube and valve is not injured thereby. Then, were a piston prepared to carry the mail bags within

valves, and valves of the air-pump, was increased to 94 lbs. upon the square inch; and this pressure being beyond their perfection, caused a greater leakage into the vacuum tube and air-pump cylinder, than the motive power of the engine could control. The natural result of this was, these chambers were kept in a uniform degree of rarefaction—consequently, a steady mercurial gauge, and a limited uniform velocity to the train, were inevitable.—J. WHITE, C.E.: *Walcot-place, Kensington, Feb. 17.*

DOUBLE WHEEL SYSTEM OF RAILWAYS.

SIR.—Having read the papers of "Geometricals," "G. M. T.," &c., as to the mathematical defects in railway construction, and there being unanswerable objections to a revolving flange, I send you a description of a plan which has occurred to me, elaborated by much reflection, which will produce the action of plane surfaces rolling on other plane surfaces. A cylinder rolling on a plane, is the true theory of locomotion—a desideratum which this plan will supply. Let the rail be so rolled that it forms two plane surfaces, inclining outwards and inwards, from the centre downwards, at an angle of (say) 15°, with a guide ridge in the centre of about an inch high. To proper bearers, which must be sufficiently deep to allow one of each pair of wheels to revolve beneath the carriage, are fixed double axles, each end of which inclines downwards at an angle of (say) also 15°, to correspond with the inclination of the planes of the rail. A section of each double wheel and axle, when mounted, would thus form a figure much like an inverted V; the friction, jolting, and oscillation, occasioned by the flange be avoided; and, it appears to me next to a moral impossibility that the carriages could run off the line—while, should even the breakage of one end of an axle occur, the progress of the train would not even be retarded.

A. T. J. MARTIN.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.—Lenton Consols Mining Company—at the mine.
Wheat Mary (Lanivet) Mining Company—Peevor's Hotel, Truro.
Bawden Iron Company—offices at One.
Great Western and Wycombe Railway—offices, at Twelve.
Great Western and Uxbridge Railway—offices, at Twelve.
Taw Vale Railway and Dock Company—London Tavern, at Twelve.
Norfolk Railway—offices, at One.
Cornwall Railway—Assembly Rooms, Truro, at One.
General Steam Navigation Company—Offices, at Two.
Shrewsbury and Hereford Railway—British Hotel, Cockspur-street, One.
London and Blackwall Railway—London Tavern, at Twelve.
Metropolitan Sewage Manure Company—offices, at Twelve.
Arling Iron and Coal Company—offices, at One.
Lynmouth Iron Company—offices, at One.
South Wales Railway—Paddington Station, at Twelve for One.
Northern Counties Union Railway—London Tavern, at half-past Twelve.
Central of South Railway—London Tavern, at One.
County Fire Insurance Company—offices, at One.
Eastern Union Railway—offices, at One.
Bristol United Mining Company—offices, at Twelve.
Imperial Braziliot Mining Association—London Tavern, at Two.
Basingstoke, Guildford and Ripon Railway—London Tavern, Twelve for One.
Whitstable and Faversham Junction Railway—offices, at One.
Provident Clerks' Mutual Benefit Association—London Tavern, at Six.
East Lincolnshire Railway—Crown and Anchor Tavern, at One.
East and West India Dock Company—offices, at Two.
Provident Life Insurance Company—offices, at One.
Vale of Neath Railway—offices, at One.
Charing-Cross Bridge Company—offices, at One.
Dover and London and Portsmouth Railway—London Tavern, at One.
Cork and Waterford Railway—London Tavern, at One.
Consolidated Trelton Mining Company—offices, at Two.
Canal des Alpes Company—offices, at One.
Carnarvon Estate Improvement Company—offices, at Two.
Thames Haven Railway and Dock Company—Guildhall Coffee-house, One.
Newry, Warrington, and Rosstrevor Railway—offices, at One.
Dartmouth Patent Salt Company—King's Head Tavern, Poultry, at Two.
London and South-Western Railway—Terminus, at One.
Lynn and Ely, Lynn and Dereham, and Ely and Huntingdon Railway—London Tavern at Eleven, One, and Two.
North American Land Association of Ireland—offices, at One.
Waterford, Wexford, and Wicklow Railway—offices, at Twelve.
Norfolk Estuary Company—British Hotel, Cockspur-street, at Two.
Furness Railway—offices, at Eleven.
SATURDAY.—West Cornwall Railway—offices, at One.
Irish Waste Land Improvement Society—King's Head, Poultry, Twelve.
Great Northern Railway—Hall of Commerce, at Twelve.
Caledonian Railway—Gibson's Royal Hotel, Edinburgh, at One.
London and Manchester Railway (Remington's)—London Tavern, Twelve.

[The meetings of Mining Companies are inserted among the Mining Intelligence.]

MUTUAL LIFE ASSURANCE SOCIETY.

A numerous annual meeting of the members of this society took place at the King's Head Tavern, Poultry, on Wednesday, the 17th inst.

RICHARD GODSON, Esq., M.P., in the chair.

The ACTUARY (Mr. Peter Hardy) read the minutes of the last annual meeting. The accounts were also read, and laid on the table for the inspection of the members.

Mr. HARDY then read the following report of the directors:

REPORT.

So encouraging and satisfactory, in every point of view, has been the progress of the Mutual Life Assurance Society hitherto, that it truly constitutes a very agreeable department in the administration of the directors, to report to the general body of the members, at the close of each successive 12 months, what that progress has been during the previous year, and what is the then condition, and what are the future prospects of the society, which has been committed to their superintendence and government. Independently of the gratification which must naturally be experienced in announcing, from time to time, the steady advancement of the society, the directors look upon the rule which requires an official report from them at this season of the year, as one of the most wise and salutary regulations over framed. The annual and open examination of the society's progress, expenditure, and actual condition, is not only satisfactory to the directors, and to the other executive officers of the establishment, but it is manifest that it must act quite as beneficially for the society at large, as a safeguard to the members, a protection to their interest and stimulus to their future exertions. In conformity then with this rule, the directors' report having received from the public during the year recently expired, 159 proposals for new assurances to the amount of nearly 130,000. The total number of policies issued up to the 31st Dec. last, was 1224, the total number at that time in existence was 984. The capital sums assured under those policies amounted to £68,388. 15s. 2d. and the annual income of the society from assurance premiums alone, was 23,512. 11s. 11d. The capital of the society, up to the same date, consisting wholly of money in the public funds, and invested on sound securities, amounted to 105,124. 0s. 3d. or very nearly one-sixth of the entire sums assured, or ultimate liabilities of the society. The amount of claims incurred by the decease of members during the past year has been considerably lower than the expected average, and very few members have withdrawn from the society by the surrender of their interests in the general fund. The directors cannot fail to ascribe this very satisfactory aspect of the society's affairs in part to the care and judgment of their medical officers, evinced by a careful exclusion of doubtful lives; in part to the moderation of the official expenditure; but it chiefly to the rising public character which the society has acquired, by the steady adherence it has shown to the principles upon which it was originally formed, and by the valuable and important results which those principles have developed. The directors will now pass to the consideration of the subject of the society's surplus capital, and to report the amounts which have been added to the policies of the members of the present division.

The investigation for the year 1846 is the 13th annual inquiry, which has been made into the society's condition and prospects—it has been conducted with the same care and minuteness as on previous occasions, and the directors are happy in being enabled to add that it exhibits results equally favourable with those of former years. After an ample valuation of the society's liabilities, and one equally as cautious of its assets, the directors are enabled to declare (as already shown by the balance-sheet) a clear divisible surplus of £9,655. 0s. 3d., equivalent to 7s. 8d. in every £1 sterling contributed to the funds of the society. This surplus will enable the directors to augment the sums originally assured to the members under their policies for and during the current year, by as large amount of bonus (it can be confidently stated) as any institution for the assurance of life has hitherto added to the policies of its members in an equal interval of time. This assertion may be readily verified by a comparison of the additions made by other societies with the results contained in the following short table, usually prepared for this meeting, and which exhibits the sums actually added to the 10 oldest policies existing on the books of the society.

TABLE

Showing the Additions actually made up to the 31st of Dec., 1846, to the Ten oldest existing Policies effected in the year 1834, with the Mutual Life Assurance Society, No. 37, Old Jewry.

| Policy No. | Age at admission. | Sum assured. | Annual Premium. | Amount of Premium paid without interest | Total addition in 1845. | Total addition in 1846. |
|------------|-------------------|--------------|-----------------|---|-------------------------|-------------------------|
| | | | | | 1845. | 1846. |
| 1 | 20 | £1000 | £24 0 0 | £232 0 0 | £234 12 0 | £266 0 0 |
| 2 | 42 | 2000 | 71 13 4 | 931 13 0 | 577 18 0 | 658 6 0 |
| 3 | 50 | 2000 | 90 13 4 | 1178 13 0 | 653 0 0 | 746 14 0 |
| 4 | 47 | 3000 | 82 11 8 | 1073 11 0 | 618 16 0 | 708 6 0 |
| 5 | 62 | 1500 | 72 6 3 | 940 1 0 | 510 10 0 | 583 18 0 |
| 6 | 21 | 500 | 9 13 6 | 125 2 0 | 104 16 0 | 120 0 0 |
| 7 | 53 | 2000 | 114 0 0 | 1452 0 0 | 805 1 0 | 902 0 0 |
| 8 | 85 | 1500 | 43 1 3 | 599 16 0 | 390 12 0 | 442 6 0 |
| 9 | 30 | 500 | 12 3 9 | 158 8 0 | 117 5 0 | 131 8 0 |
| 10 | 48 | 1000 | 42 10 10 | 553 0 0 | 318 4 0 | 363 8 0 |

These 10 oldest policies are merely selected for convenience, and as specimens from the books of the society of the amounts actually added. Every policy in the society has a proportionate amount of addition written to its credit.

These very handsome and ample additions, together with the flattering and prosperous condition of the society in other respects, induce the directors to offer a few observations on the subject of the advantages which may in future be expected to be derived from the society. The circumstance that the capital is being rapidly augmented every year is not, taken by itself, any decisive criterion, although it is a fair presumptive

proof of the actual prosperity of the society. But, as there is at the same time a probability that this quick growth of funds, and regularly increasing addition to the policies, may induce the members into the formation of extravagant opinions respecting the future profits of the society, the directors deem it expedient to guard them against indulging in over sanguine expectations founded too early, merely on the rapid growth of the society's funded capital. It is scarcely possible at the present day, and under the existing circumstances of this country, that any life assurance society, whatever may be its nature, or whatever may have been its success, can look forward to promise to its members a larger amount of bonus or the average than cent per cent. upon the sum originally assured; or, in other words, can ever (unless under a very remarkable combination of circumstances), pay to each member on an average, more than a double policy for every single one originally effected, however solid and ample the amount of that probable accumulation may be, and it must in fairness be acknowledged that it is both. It must yet be obvious to all, that some years must necessarily elapse, before this limit can be attained; and all that the rapid growth of the society's capital ought to indicate to a prudent mind, is that such limit is being thus more speedily and more surely attained, and that the members are in truth drawing from the society's successful career the greatest amount of benefit from the system of life assurance, which can possibly be procured for them by the outlay of their premiums. The directors have, perhaps, the more urgently insisted on the foregoing considerations, because the Mutual Society was originally formed on a simple and unprejudiced basis; it has hitherto owed nothing to the effects of empty representations or parade; and the directors are, therefore, the more unwilling that it should ever any assistance to mere statements, which, although rigidly true and correct in themselves, might yet without explanation be likely to mislead. In the declaration of every past division of profits, the directors have been uniformly governed by the sure and exact principles of strict computation, and they pledge themselves to the members, that neither the increasing capital of the society, nor any other apparent sign of accumulating wealth, shall ever tempt them to relinquish so wise and salutary a course.

While thus endeavouring to restrain, as well in themselves as in others, over-ardent expectations as to the future, it would be both unwise and ungrateful were the directors not to acknowledge their sense of the sound and really prosperous condition of the society at the present time, and their entire conviction of its heretofore bestowing on its members the greatest amount of benefit which the system of life assurance is capable of producing. Those of the present members who remember the origin and formation of the society, and who were so fortunate as to take an active part in its establishment, will be rejoiced to see how the moderate promises of its founders have been more than fulfilled, and how closely the real operations of the society have coincided with the theoretical ones which were at that time advanced. It is no exaggeration nor untruth to say, that the Mutual Society was formed from no selfish motive, nor for the individual benefit nor advantage of any one person in connection with it—its sprung out of the purest motives of philanthropy. It was designed as the assurance office of the husband and father, and established in consequence of an honest conviction that some such society was needed by the public. And how far, it may be asked, has it fulfilled the purposes for which it was designed? It has already, in the period of its brief career, distributed a sum amounting to £20,000, amongst the wives and children of its deceased members; carrying with that sum much comfort and consolation to homes which, in some instances (it is not saying too much), would have been otherwise left unprovided for. As a social society, such as the directors have described it to be, it merits the warm sympathy and active support of all. It depended for its early success on the individual characters of those who promoted it, and it yet depends in a great measure for its further success on the individual exertions and recommendations of those who now belong to it.

The directors will not urge the members to exertion, by endeavouring to convince them, that it is for their pecuniary benefit and advantage to induce their friends to enter a society which, it can be fairly shown, offers so many inducements, and which holds out such bright promise of conferring yet many more—while they will not employ an argument which might seem to appeal so directly to the selfish feelings of mankind; but they would willingly endeavour to sway them to exertion by a softer method—they would ask them to reflect on the immense amount of social good which is effected, when one man merely is induced to perform an act tending so much to the happiness of himself and his dependents as that of assuring his life; and they feel satisfied that it only needs such a conviction to convert every member of this and every other similar society into an active missionary for life assurance: in a word, while the directors on their part cordially assent to, they hope that every member of the society will re-echo, that great and benevolent sentiment of a former and eminent actuary, that:

"Every policy of assurance, in whatever office it is effected, is not only a private but a public good."

The CHAIRMAN said, the question now was the adoption of the accounts, and the report just read, upon which he should be happy to hear any gentleman who wished to address the society.

Mr. SIMPSON observed, that he had assured for 18 years in the Eagle Office, and found there was added to his policy 341. 18s. 3d. He had also entered the Amicable at the same age, and found that after the next annual payment, which would also be the eighteenth, the bonus on that policy would be £25. In this year 1844, he was induced to join the Mutual Assurance, and was one of its earliest members. He assured for 1000L. Now, he should be very glad if Mr. Hardy, with the leave of the chairman, would state what addition there was to his policy to the present time.

A MEMBER: each assurance was for a 1000L.—Mr. SIMPSON: each for 1000L.

A MEMBER asked, if there had been any reduction in the premium.

Mr. SIMPSON said the premium to the Eagle was 271. 5s. 10d., and to the Amicable the payment was 271. 10s. On entering the Mutual, four years afterwards, he paid 31L. 2s. 6d. on the 1000L.

A MEMBER: That brings the premium to about the same thing.

Mr. SIMPSON: It is so; and I hope, by knowing this, the younger members will be induced to exert themselves, because it is from the younger members that we expect benefit to our society. (Hear, hear.)

Mr. HARDY: The bonus, I find, in your policy, Mr. Simpson, to the 31st December, of the current year, will be 352. (Applause.)

Mr. SIMPSON drew attention to this fact, for he had only joined the Mutual 14 years, and yet they gave him 352. (Hear, hear.) It would stand thus: for his 1000L in the Eagle he would receive 1034.; for a 1000L in the Amicable he would receive 1125.; and for his 1000L in the Mutual he would receive 1325. (Applause.)

Mr. ROWELL said, it was reported that a member could not reduce the amount of his annual premium; if so, that would labour under great disadvantage.

Mr. HARDY replied, that about eight years ago a resolution was passed, that any member assuring in this office might have his addition or bonus, for an interval of not less than seven years, applied to the reduction of his future annual premiums.

Mr. ROWELL: Is that stated in the circular?—Mr. HARDY: It is publicly known.

Mr. WINSOR observed, that it was put down that the amount distributed amongst the members was 42,000.; that the amount of existing policies was 984, the original number being 1224, which made a clear difference of 240. Now, his idea from these figures was, that the 42,000. became payable in 240 policies. Would Mr. Hardy tell him, if that were the case—as it was desirable that the meeting should understand—in what number of policies this 42,000. was distributed. (Hear, hear.)

Mr. HARDY said, the number of claimants by death was 44, assured on about 1000L each, which was the general average of the policies of the society. The difference between 984 and 1224, which former was the real number of the policies in existence, was made up by the 44 that had dropped, and of others that had been surrendered, forfeited, and lapsed to the society.

A DIRECTOR: That is, there have only been 44 deaths since the society has been in existence for 13 years. (Hear, hear.)

Mr. DENNIS thought the explanation quite satisfactory.

The report and accounts were then adopted, and ordered to be printed and circulated amongst the members of the society.

The CHAIRMAN said, he could not allow the meeting to break up, without congratulating the members, for the thirteenth time, on the prosperous state of the society. He assured them that, personally to himself, and the other directors, it was a consolation to meet them on these annual occasions, because they felt that the society had been founded on the best possible basis, and that it had been carried on with every caution, economy, and prudence, which was verified by the degree of prosperity at which they had arrived. (Applause.) The cause of this prosperity mainly arose from the fact, that they had never paid any money away to others than the assured, or to their estates. They paid nothing to local boards till they, by receipt, were a profit. All they had to do, was to husband their money till it was to be returned to their representatives, when the members themselves ceased to exist. (Hear, hear.) Having founded this society on that excellent basis, the directors proceeded with 100 lives, which they had properly examined, and then provided a private guarantee fund, in case of any unavoidable event happening to the institution. They went on in this great work from time to time, till the present day, when their annual receipt, from money invested, was 10,000L a year, and their receipts from local boards 24,000L a year. (Loud applause.) There had been, as stated, 44 deaths, which, if they divided by 13, they would set the number annually, and against that they received 30,000L annually. If, for example, they looked at the increment that had been placed during the 13 years, they must admit that some caution and some prudence had been used, to bring things to a flattering result. (Hear, hear.) They were told in the report, that the surplus balance, in round numbers, was 60,000L this year. Last year, on turning over the book, he found the report stated it to be 48,000L, so that the balance had increased 12,000L during the year. (Applause.) Now, the state of this society might be proved by two tests. In the first place, they valued all their liabilities as high as any society could possibly value them; secondly, they valued all their assets as low as any society could possibly value them, or would be done by any private individual. This mode of valuation would be best understood, if he were to suppose the society to be dissolved to-morrow, and that they had 1000 lives assured, 999 of which thought fit to remove their policies to some other office—that they came to the Mutual, and said, "We do not like your society, give us our policies, with such amounts of money as will put us in the same position in that office." The directors could not only make that return to the 999, but would also have a balance of 50,000L to divide amongst the odd 10. That remained, as a clear, unappropriated surplus. (Hear, hear.) There was another test of the soundness of this institution. During the 13 years the society had received 136,000L from the insurers; by that 126,000L they had now in cash, in the funds, and out on mortgage, about 103,000L; therefore, including all that had been done in paying policies on those that had died, or for expenses, they would have only to deduct 105,000L from 136,000L, and they would find that 31,000L was all that had passed away from them. He would repeat, take this as another test, they had received 126,000L, and they had got a present 105,000L. They had paid claims 42,000L; they had paid for dividends, 3000L—making 45,000L, and the expenses during the time were 25,000L, which, divided by 13, was about 2000L a year; so that this concern, flourishing as it was, had been conducted, on an average, at less than 2000L a year. (Loud applause.) The 70,000L so paid away was thus accounted for, and their capital had only been reduced 31,000L. Was that good management, or not? (Applause.) The Chairman then alluded to the tabular statement in the report, and drew attention to the proportion in which the additions had accumulated. It was by the economy of the management, the advantage of interest and compound interest, there being no shareholders to claim a dividend on shares, nor agents to take away 5 per cent., that enabled the directors to allow the gentleman No. 6 in the table to have his 120L in addition to his policy, although he had paid only